



June 26, 2023

Jeannette Jackson  
Division of Trading and Markets  
Office of Market Supervision  
Securities and Exchange Commission  
100 F. Street, N.E.  
Washington, D.C. 20549

**RE: MIAX Emerald, LLC (“EMERALD”)  
Amendment 2023-8 to Form 1 Application**

Dear Ms. Jackson:

Enclosed for official filing pursuant to Rule 6a-2(b) is Amendment 2023-8 to the Form 1 Application of EMERALD, which includes the following:

Exhibits D, I, K, M & N – Annual filing pursuant to Rule 6a-2(b)

Please do not hesitate to contact me if you have any questions in connection with this matter.

Sincerely,

*Barbara J. Comly*

Barbara J. Comly  
EVP, General Counsel & Corporate Secretary

Enclosure  
cc: Marlene Olsen

Form 1 Page 1 Execution Page	<b>UNITED STATES SECURITIES AND EXCHANGE COMMISSION</b> <b>WASHINGTON, D.C. 20549</b> <b>APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR,</b> <b>REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION</b> <b>FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT</b>	Date filed (MM/DD/YY):  06/26/23	OFFICIAL USE ONLY
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Warning: Failure to keep this form current and to file accurate supplementary information on a timely basis, or the failure to keep accurate books and records or otherwise comply with the provisions of law applying to the conduct of the applicant would violate the federal securities laws and may result in disciplinary, administrative or criminal action

INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACTS MAY CONSTITUTE CRIMINAL VIOLATIONS

APPLICATION  AMENDMENT

1. State the name of the applicant: MIAX Emerald, LLC
2. Provide the applicant's primary street address (Do not use a P.O. Box): 7 Roszel Road, Suite 1A, Princeton, NJ 08540
3. Provide the applicant's mailing address (if different):
4. Provide the applicant's business telephone and facsimile number:  
Telephone: 609-897-7300; Facsimile: 609-987-2210
5. Provide the name, title and telephone number of a contact employee:  
Barbara J. Comly, EVP, General Counsel & Corporate Secretary  
609-897-7315
6. Provide the name and address of counsel for the applicant:  
Barbara J. Comly, EVP, General Counsel & Corporate Secretary  
MIAX Emerald, LLC  
7 Roszel Road, Suite 1A  
Princeton, NJ 08540
7. Provide the date applicant's fiscal year ends: December 31
8. Indicate legal status of applicant:  Corporation  Sole Proprietorship  Partnership  
 Limited Liability Company  Other (specify):



23007742

If other than a sole proprietor, indicate the date and place where applicant obtained its legal status (e.g. state where incorporated, place where partnership agreement was filed or where applicant entity was formed):

- (a) Date (MM/DD/YY): 01/30/18                      (b) State/Country of formation: Delaware
- (c) Statute under which applicant was organized: Delaware Limited Liability Company Act (6 Del. C. § 18-101, et seq.)

**EXECUTION:** The applicant consents that service of any civil action brought by, or notice of any proceeding before, the Securities and Exchange Commission in connection with the applicant's activities may be given by registered or certified mail or confirmed telegram to the applicant's contact employee at the main address, or mailing address if different, given in Items 2 and 3. The undersigned, being first duly sworn, deposes and says that he/she has executed this form on behalf of, and with the authority of, said applicant. The undersigned and applicant represent that the information and statements contained herein, including exhibits, schedules, or other documents attached hereto, and other information filed herewith, all of which are made a part hereof, are current, true, and complete.

MIAX EMERALD, LLC

Date: June 26, 2023

By: Barbara J. Comly  
Barbara J. Comly  
EVP, General Counsel & Corporate Secretary

Subscribed and sworn before me this \_\_\_\_ day of \_\_\_\_\_, 2023.

Based upon relief from Commission Staff and difficulties arising from COVID-19, MIAX Emerald, LLC is making this filing without a notarization.

\_\_\_\_\_  
Notary Public of the State of New Jersey

**This page must always be completed in full with original, manual signature and notarization.**  
**Affix notary stamp or seal where applicable.**

## EXHIBIT D

### Exhibit Request:

For each subsidiary or affiliate of the exchange, provide unconsolidated financial statements for the latest fiscal year. Such financial statements shall consist, at a minimum, of a balance sheet and an income statement with such footnotes and other disclosures as are necessary to avoid rendering the financial statements misleading. If any affiliate or subsidiary is required by another Commission rule to submit annual financial statements, a statement to that effect, with a citation to the other Commission rule, may be provided in lieu of the financial statements required here.

### Response:

1. Unaudited unconsolidated financial statements of Miami International Holdings, Inc. as of December 31, 2022 are attached.
2. Audited unconsolidated financial statements of Miami International Securities Exchange, LLC as of December 31, 2022 are attached.
3. Audited unconsolidated financial statements of MIAX PEARL, LLC as of December 31, 2022 are attached.
4. Unaudited unconsolidated financial statements of Miami International Technologies, LLC as of December 31, 2022 are attached.
5. Unaudited unconsolidated financial statements of MIAX Futures, LLC as of December 31, 2022 are attached.
6. Unaudited unconsolidated financial statements of The Bermuda Stock Exchange as of December 31, 2022 are attached.
7. Unaudited unconsolidated financial statements of M 402 Holdings, LLC as of December 31, 2022 are attached. (Balance sheet provided; no profit & loss statement as no income or expenses as of December 31, 2022.)
8. Unaudited unconsolidated financial statements of Minneapolis Grain Exchange, LLC as of December 31, 2022 are attached.
9. Unaudited unconsolidated financial statements of Dorman Trading, LLC as of December 31, 2022 are attached.
10. Unaudited unconsolidated financial statements of ConvexityShares, LLC as of December 31, 2022 are attached.
11. M 7 Holdings, LLC, MIAX Global, LLC, MIAX Products, LLC, and BSD Nominee Limited are not active and financial statements are not available for these companies.

12. The following companies were subsidiaries subsequent to December 31, 2022 and accordingly financial statements as of December 31, 2022 are not included: MIH East Holdings, Limited, MIAX Sapphire, LLC and LedgerX LLC.

## EXHIBIT I

### Exhibit Request:

For the latest fiscal year of the applicant, audited financial statements which are prepared in accordance with, or in the case of a foreign applicant, reconciled with, United States generally accepted accounting principles, and are covered by a report prepared by an independent public accountant. If an applicant has no consolidated subsidiaries, it shall file audited financial statements under Exhibit I alone and need not file a separate unaudited financial statement for the applicant under Exhibit D.

### Response:

Audited unconsolidated financial statements for MIAX Emerald, LLC as of December 31, 2022 are attached. MIAX Emerald, LLC has no consolidated subsidiaries.

## EXHIBIT K

### Exhibit Request:

This Exhibit is applicable only to exchanges that have one or more owners, shareholders, or partners that are not also members of the exchange. If the exchange is a corporation, please provide a list of each shareholder that directly owns 5% or more of a class of a voting security of the applicant. If the exchange is a partnership, please provide a list of all general partners and those limited and special partners that have the right to receive upon dissolution, or have contributed, 5% or more of the partnership's capital. For each of the persons listed in the Exhibit K, please provide the following:

1. Full legal name;
2. Title or Status;
3. Date title or status was acquired;
4. Approximate ownership interest; and
5. Whether the person has control, a term that is defined in the instructions to this Form.

### Response:

Miami International Holdings, Inc. owns 100% of MIAX Emerald, LLC. Miami International Holdings, Inc. exercises "control" over the Exchange, as that term is defined in the Form 1 instructions. MIAX Emerald, LLC became a wholly-owned subsidiary of Miami International Holdings, Inc. on January 30, 2018.

## **EXHIBIT M**

### **Exhibit Request:**

Provide an alphabetical list of all members, subscribers or other users, including the following information:

1. **Name;**
2. **Date of election to membership or acceptance as a member, subscriber or other user;**
3. **Principal business address and telephone number;**
4. **If member, subscriber or other user is an individual, the name of the entity with which such individual is associated and the relationship of such individual to the entity (e.g. partner, officer, director, employee, etc.);**
5. **Describe the type of activities primarily engaged in by the member, subscriber, or other user (e.g. floor broker, specialist, odd lot dealer, other market maker, proprietary trader, non-broker dealer, inactive or other functions). A person shall be “primarily engaged” in an activity or function for purposes of this item when that activity or function is the one in which that person is engaged for the majority of their time. When more than one type of person at an entity engages in any of the six types of activities or functions enumerated in this item, identify each type (e.g. proprietary trader, Registered Competitive Trader and Registered Competitive Market Maker) and state the number of participants, subscribers, or other users in each; and**
6. **The class of membership, participation or subscription or other access.**

### **Response:**

Attached is a list of the members of the Exchange as of June 14, 2023, including the information set forth in items 1-6 above.

## EXHIBIT N

### **Exhibit Request:**

Provide a schedule for each of the following:

1. The securities listed in the exchange, indicating for each the name of the issuer and a description of the security;
2. The securities admitted to unlisted trading privileges, indicating for each the name of the issuer and a description of the security;
3. The unregistered securities admitted to trading on the exchange which are exempt from registration under Section 12(a) of the Act. For each security listed, provide the name of the issuer and a description of the security, and the statutory exemption claimed (e.g. Rule 12a-6); and
4. Other securities traded on the Exchange, including for each the name of the issuer and a description of the security.

### **Response:**

1. Attached is a list of the securities listed on the exchange as of June 2, 2023, indicating for each the name of the issuer and a description of the security.
2. None.
3. None.
4. None.



**MIAMI INTERNATIONAL HOLDINGS, INC.**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**MIAMI INTERNATIONAL HOLDINGS, INC.**  
**Unconsolidated Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

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<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 56,334
Restricted cash	1,060
Other current assets	4,525
Total current assets	<u>61,919</u>
Due from subsidiaries (to Miami International Holdings, Inc.)	288,510
Investment in third parties	16,627
Investment in subsidiaries	54,043
Fixed assets, net	16,362
Internally developed software, net	25,063
Goodwill	44,299
Other intangible assets, net	97,216
Other assets	15,532
Total assets	<u><u>\$ 619,571</u></u>
<b>Liabilities and stockholders' equity</b>	
Current liabilities:	
Accounts payable and other liabilities	\$ 20,660
Accrued compensation payable	20,075
Current debt of long term debt	32,000
Total current liabilities	<u>72,735</u>
Deferred income taxes	6,596
Long term debt	115,505
Other non-current liabilities	237,353
Total liabilities	<u>432,189</u>
Stockholders' equity:	
Preferred stock - par value \$0.001 (25,000,000 authorized, 1,477,405 issued and outstanding at December 31, 2022)	2
Common stock - voting and nonvoting, par value \$0.001 (600,000,000 authorized (400,000,000 voting, 200,000,000 nonvoting); 95,209,954 issued and outstanding non-puttable common stock at December 31, 2022 (87,638,733 voting, 7,571,221 nonvoting)	95
Additional paid-in capital	647,781
Accumulated deficit	(460,117)
Total Miami International Holdings, Inc. stockholders' equity	<u>187,761</u>
Non-controlling interest in consolidated subsidiaries	(379)
Total stockholders' equity	<u>187,382</u>
Total liabilities and stockholders' equity	<u><u>\$ 619,571</u></u>

**MIAMI INTERNATIONAL HOLDINGS, INC.**  
**Unconsolidated Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022 (dollars in thousands)**

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Revenues:		
Market data fees	\$	5
Other revenue		14,304
Total revenues		<u>14,309</u>
Operating expenses:		
Compensation and benefits		18,825
Information technology and communication costs		1,763
Depreciation and amortization		15,652
Occupancy costs		1,360
Professional fees and outside services		14,747
Marketing and business development		683
Acquisition-related costs		2,408
General, administrative, and other		8,274
Total operating expense		<u>63,712</u>
Operating loss		(49,403)
Non-operating (expense) income:		
Change in fair value of warrants on puttable shares & puttable common stock		71,267
Interest expense and amortization of debt issuance cost		(21,634)
Impairment of investment		(4,615)
Loss before income tax provision		<u>(4,385)</u>
Income tax benefit		<u>6,966</u>
Net income		2,581
Net loss attributable to non-controlling interest		<u>(228)</u>
Net income attributable to common stock holders	\$	<u><u>2,809</u></u>

**MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC**

Financial Statements

As of and for the year ended December 31, 2022

(with Independent Auditors' Report Thereon)

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

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KPMG LLP  
345 Park Avenue  
New York, NY 10154-0102

## **Independent Auditors' Report**

The Board of Directors  
Miami International Securities Exchange, LLC:

### *Opinion*

We have audited the financial statements of Miami International Securities Exchange, LLC (the Company), which comprise the statement of financial condition as of December 31, 2022, and the related statements of income and changes in member's deficit, and cash flows for the year then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.

### *Basis for Opinion*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

### *Auditors' Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.



In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

*KPMG LLP*

New York, New York  
June 14, 2023

**MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC**  
**Statement of Financial Condition**  
**December 31, 2022 (dollars in thousands)**

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<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 13,179
Accounts receivable	15,569
Marketing fee receivable	6,689
Other current assets	1,852
Total current assets	<u>37,289</u>
Notes receivable, net	10,983
Other assets	1,000
Total assets	<u>\$ 49,272</u>
<b>Liabilities and Member's Deficit</b>	
Current liabilities:	
Accounts payable and other liabilities	\$ 11,140
Marketing fees payable	6,713
Total current liabilities	<u>17,853</u>
Due to Miami International Holdings, Inc.	102,469
Deferred transaction revenue	49
Total liabilities	<u>120,371</u>
Commitments and contingencies	-
Member's deficit	
Accumulated losses	<u>(71,099)</u>
Total member's deficit	<u>(71,099)</u>
Total liabilities and member's deficit	<u>\$ 49,272</u>

*See accompanying notes to financial statements.*



**MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC**  
**Statement of Income and Changes in Member's Deficit**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Revenues:	
Transaction fees	\$ 149,546
Access fees	21,341
Market data fees	7,089
Other revenue	1,169
Total revenues	<u>179,145</u>
Cost of revenues:	
Liquidity payments	82,792
Brokerage and exchange fees	2,091
Section 31 fees	9,457
Total cost of revenues	<u>94,340</u>
Revenues less cost of revenues	<u>84,805</u>
Operating expenses:	
Compensation and benefits	16,312
Information technology and communication costs	5,203
Depreciation and amortization	2,150
Occupancy costs	879
Professional fees and outside services	6,351
Marketing and business development	1,223
General, administrative, and other	2,552
Total operating expenses	<u>34,670</u>
Operating income	50,135
Non-operating income:	
Interest income, net	145
Net profit	<u>\$ 50,280</u>
Member's deficit at beginning of year	\$ (121,379)
Net profit	<u>50,280</u>
Member's deficit at end of year	<u>\$ (71,099)</u>

*See accompanying notes to financial statements.*

**MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC**  
**Statement of Cash Flows**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Cash flow from operating activities:	
Net profit	\$ 50,280
Adjustments to reconcile net profit to net cash provided by operating activities:	
Depreciation and amortization	2,150
Provision for notes receivable credit losses	2,798
Changes in operating assets and liabilities:	
Accounts receivable	(1,518)
Marketing fees receivable	(1,798)
Notes receivable	(6,057)
Other assets	(329)
Accounts payable and other liabilities	1,576
Marketing fees payable	1,780
Deferred transaction revenue	39
Net cash provided by operating activities	<u>48,921</u>
Cash flow from financing activities:	
Repayments of capital lease obligation	(2,431)
Due to Miami International Holdings, Inc.	(91,213)
Net cash used in financing activities	<u>(93,644)</u>
Decrease in cash and cash equivalents	(44,723)
Cash and cash equivalents at beginning of year	<u>57,902</u>
Cash and cash equivalents at end of year	<u>\$ 13,179</u>
Cash paid during the year for interest	\$ 107

*See accompanying notes to financial statements.*

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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### 1. NATURE OF OPERATIONS

Miami International Securities Exchange, LLC (“MIAX” or the “Company”) is a wholly owned subsidiary of Miami International Holdings, Inc. (the “Parent” or “MIH”) and provides a marketplace for the trading of options products for its exchange members.

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### *Basis of Presentation*

The accompanying financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”). The accompanying financial statements for the Company have been prepared from the separate records maintained by the Parent and may not necessarily be indicative of the conditions that would have existed or the results of operations if the Company had been operated as an unaffiliated company. Portions of certain income and expenses represent allocations made from the Parent and other affiliated subsidiaries of the Parent to the Company as disclosed. See Note 6 (“Related Party Transactions”) for more information on related party transactions.

#### *Use of Estimates*

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

#### *Cash and Cash Equivalents*

The Company's operations are funded by its Parent through a centralized treasury function. Cash and cash equivalents include cash and amounts due from banks and interest-bearing bank balances. The Company places its cash and cash equivalents with financial institutions and at times, cash held in bank accounts may exceed the Federal Deposit Insurance Corporation insurance limit. The Company monitors its risk of loss associated with such balances and deems the risk of loss to be remote. The carrying values of the Company's cash and cash equivalents approximates fair value. The Company did not have any restricted cash as of December 31, 2022.

#### *Accounts Receivable*

Accounts receivable are concentrated with the Company's member firms and market data distributors and are primarily collected through the Options Clearing Corporation (“OCC”). Transaction fees are netted against the liquidity payments for each member firm and the balance owed from a member firm is recognized as accounts receivable, net if the amount is to be received and as accounts payable and other liabilities if the amount is owed to the member firm. Management evaluates the Company's accounts receivables periodically and determines an appropriate allowance for uncollectible accounts receivable based on anticipated collections. In circumstances where a specific member firm's inability to meet its financial obligations is probable, the Company records a provision for uncollectible accounts against the member firm's receivable.

#### *Fixed Assets, Net*

Fixed assets are stated at cost, net of accumulated depreciation. As all fixed assets are acquired under capital leases, and depreciation is computed on a straight-line basis over the life of the lease, ranging from one to three years. The estimated useful life of the fixed assets ranges from three to five years.

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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### *Due to Miami International Holdings, Inc.*

The majority of the Company's expenditures to date have been funded by the Parent. In certain instances, the Parent's other wholly owned subsidiaries may incur certain expenditure on behalf of the Company. Expenses incurred by the Company are settled on its behalf by the Parent or the Parent's other wholly-owned subsidiaries and allocated through intercompany charges and are net settled with the Parent resulting in payables due to Miami International Holdings, Inc. See Note 6 ("Related Party Transactions") for more information on related party transactions.

Management has determined that substantially all costs, other than direct financing and other financing related costs, for the build out of a marketplace for the trading of options and cash equities, are primarily attributable to the Company and its affiliates including MIAX Emerald, LLC ("Emerald") and MIAX PEARL, LLC ("PEARL"). The Company's allocated portion of cost are included in the accompanying statement of income and member's deficit. The Company considers changes in Due to Miami International Holdings, Inc., to be financing activity for purposes of the statement of cash flows.

### *Revenue Recognition*

The Company generates revenues by assessing fees to its member firms for the services it renders, which include providing access to its exchanges, enabling transaction-based trading on its exchanges, and providing access to various market data. Revenue for the Company's services are recognized as control of the services are transferred to the customer. The amount recognized is the amount that reflects the consideration the Company expects to be entitled to in exchange for its services.

The Company determines the transaction price at the outset of the arrangement based on the contractual and payment terms associated with the transaction. The typical term for the Company's contracts with customers ranges from the time it takes to complete a single transaction to one month, depending on the service being provided. Customers are usually billed each month in arrears with standard payment terms, though the Company does occasionally bill customers in advance. Fees associated with each contract are fixed within the month in which the service is provided.

The Company assesses the services promised in the contracts with customers and identifies a performance obligation for each promise to transfer to the customer a service that is distinct—i.e., if such service is separately identifiable and if a customer can benefit from it on its own or with other resources that are readily available to the customer.

*Transaction fees:* Transaction fees represent fees the Company charges to its exchange member firms, as customers, for the performance obligation of executing a trade on the Company's exchange. These fees can be variable based on trade volume tiered discounts; however, as all tiered discounts are calculated monthly, the actual discount is recorded on a monthly basis in accordance with the Company's published fee schedules. Transaction fees are recorded as transactions occur on a trade-date basis.

In the event that a customer prepays for transaction fees, revenue is recognized as transactions occur. Tiered discounts are offered to customers based on the amount of trades that are executed on the Company's exchange. As these are volume driven, they reduce the transaction price and are recorded net in transaction fees on the statement of income and changes in member's deficit. Liquidity payments paid for certain customer transactions are accounted for as consideration payable to a customer and are recorded separately as liquidity payments, which are classified within cost of revenue in the statement of income and changes in member's deficit.

Transaction fees also result in regulatory fees. Regulatory fees include the options regulatory fee ("ORF") and Section 31 fees. ORF is in place to fund the Company's regulatory oversight function of the exchange marketplace and is determined based on the number of customer contracts and cannot be used for non-regulatory purposes. Section 31 fees are transaction fees charged by the SEC to the exchanges. The Section 31 fees charged to customers are based on the fee set by the SEC per notional value of transactions executed on the Company's securities markets

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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and are calculated and billed monthly. The Section 31 fee collected by the Company is ultimately payable to the SEC, and is therefore classified within cost of revenue in the statement of income and changes in member's deficit.

*Access fees:* Access fees include fees assessed for allowing customers, which include exchange member firms and non-member firms, to connect their networks to the Company's exchange or to an external exchange for a specified period of time. Fees for these services are assessed to customers for the opportunity to trade as member firms, or in the case of non-member firms to provide these services to member firms, and use other related functions of the exchange. Access fees are billed monthly in accordance with the published fee schedules and recognized during the period the service is provided which is generally one month.

*Market data fees:* Market data fees include making market data available to customers either through direct subscriptions or through the Company's participation in U.S. Tape Plans. Market data revenue includes distributions from the U.S. Tape Plans, which is distributed based upon each individual exchange's market share of U.S. volume, trades, and/or quotes. Market data revenue also includes market data revenue earned from the sale of proprietary market data directly to the customer on a subscription basis. Market data revenue is recognized in the period the data is provided.

*Consideration payable to a customer:* As discussed in the transaction fees section above, liquidity payments are accounted for as consideration payable to a customer and reduce revenue in the period in which the rebate is earned by the customer and the payment is provided.

### ***Income Taxes***

The Company has elected to be treated as a disregarded LLC under the provisions of the Internal Revenue Code. All tax effects of Company's income and loss are passed through to the member. Therefore, no provision or liability for Federal Income Taxes is included in these financial statements. In December 2019, the FASB issued ASU 2019-12, Simplifying the Accounting for Income Taxes, which (a) clarified that an entity is not required to allocate consolidated income taxes to a legal entity that is not subject to tax for purposes of that legal entity's separate financial statements. Similar provisions apply for state and local income tax reporting. Accordingly, no provision for income taxes is provided in the accompanying financial statements.

### ***Recent Accounting Pronouncements***

Recent Accounting Pronouncements - Recently adopted

In February 2016 the FASB issued ASU 2016-02, Leases ("ASU 2016-02" or "Topic 842"). ASU 2016-02 amends several aspects of lease accounting, including requiring an entity to recognize almost all leases with a term greater than one year as a right of use asset and corresponding lease liability, measured at the present value of future lease payments. Lessees are also required to disclose qualitative and quantitative information about leasing arrangements to enable a user of the financial statements to assess the amount, timing, and uncertainty of cash flows arising from leases. The Company adopted Topic 842 on January 1, 2022, using the modified retrospective approach as of the adoption date.

The Company only has one finance lease as of the date of adoption and since the accounting for finance leases under ASC 842 is consistent with the prior accounting for capital leases, there was no material impact upon adoption. Accordingly, no adjustments were made to the opening balance of member's deficit as of the adoption date. The adoption of Topic 842 did not have a material impact to the statement of income and changes in member's deficit or statement of cash flows.

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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Recent Accounting Pronouncements - Not yet adopted

In June 2016, the FASB issued ASU No. 2016-13 (amended by ASU 2019-10), Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, regarding the measurement of credit losses for certain financial instruments which replaces the incurred loss model with a current expected credit loss (“CECL”) model. The CECL model is based on historical experience, adjusted for current conditions and reasonable and supportable forecasts. The Company adopted the new guidance as of January 1, 2023 using a modified-retrospective approach with no impact to the opening balance of retained earnings. Accounts receivables are balances with the Company's member firms and market data distributors and are primarily collected through the OCC. The Company's accounts receivable do not have significant credit risk as transaction fees are netted against liquidity payments for each member firm, mitigating the risk of collection. The financial instruments other than accounts receivable, net that are within the scope of the standard were not materially impacted by the standard.

### 3. LEASE

The Company had one capital lease related to computer hardware which matured as of October 2022 and the related computer hardware was fully depreciated during the year. During the year ended December 31, 2022, the Company recognized expense of \$2.2 million related to amortization of the finance lease asset which is recorded in depreciation and amortization and the interest on the lease liability was \$0.1 million which is recorded in interest income, net in the statement of income and changes in member's deficit.

### 4. NOTES RECEIVABLE, NET

The notes receivable relate to the consolidated audit trail (“CAT”), which involves the creation of an audit trail to enhance regulators' ability to monitor trading activities in the U.S. markets through a phased implementation. The funding for the development of the CAT is ultimately expected to be provided by the Self-Regulated Organizations (“SROs”), which include the Company, and the industry members. The SROs have presented the SEC with a fee model for charging fees, wherein the industry members will be responsible for two-thirds of the CAT cost and the SROs would be responsible for remaining one-third of the CAT cost. The funding to date has been provided by the SROs in exchange for promissory notes, which are expected to be repaid once the industry model is approved by the SEC and such industry member fees are collected. Until those fees are collected, the SROs may continue to incur additional significant costs.

The allowance for notes receivable associated with CAT is estimated based on anticipated collections. The following represents the changes in notes receivable and the allowance for notes receivable for the year ended December 31, 2022 (in thousands):

Notes receivable, gross		
Balance at January 1, 2022	\$	10,442
Additions		6,057
Balance at December 31, 2022		<u>16,499</u>
Allowance for notes receivable		
Balance at January 1, 2022		2,718
Additions		2,798
(Write-off) / recoveries		-
Balance at December 31, 2022		<u>5,516</u>
Notes receivable, net	\$	<u>10,983</u>

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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### 5. ACCOUNTS PAYABLE AND OTHER LIABILITIES

The following table presents the components of accounts payable and other liabilities as at December 31, 2022 (in thousands):

Liquidity payments payable	\$	3,932
Sales tax payable		1,146
Section 31 fees payable		3,989
Accounts payable and other		2,073
Accounts payable and other liabilities	\$	<u>11,140</u>

### 6. RELATED PARTY TRANSACTIONS

The Company utilizes assets and incurs certain liabilities that are held at the Parent level. Substantially all expenses of the Company are settled by the Parent and are charged to the Company, at cost, through intercompany charges. Similar results may not be achievable on an arm's length basis.

The following table presents the Company's allocation of expenses from the Parent and other affiliated subsidiaries of the Parent for the year ended December 31, 2022 (in thousands):

Compensation and benefits	\$	16,312
Information technology and communication costs		5,203
Occupancy costs		879
Professional fees and outside services		3,270
Marketing and business development		1,223
General, administrative, and other		1,294
Total operating expenses	\$	<u>28,181</u>

### 7. COMMITMENTS AND CONTINGENCIES

#### *Claims and Litigation*

##### *Nasdaq*

On September 1, 2017, Nasdaq, Inc., filed an action against Miami International Holdings, Inc., Miami International Securities Exchange, LLC, MIAX PEARL, LLC and Miami International Technologies, LLC in the U.S. District Court for the District of New Jersey alleging patent infringement and trade secret misappropriation relating to Nasdaq's electronic trading technology and platforms. MIH subsequently filed six petitions before the Patent Trial and Appeal Board ("PTAB") at the United States Patent and Trademark Office ("USPTO") seeking a determination that the subject patent is invalid under the current law. The District Court proceeding was stayed in December 2018, pending resolution of the PTAB proceedings. All claims asserted by Nasdaq against MIH under the six patents at issue were invalidated by the PTAB in 2019 (the "PTAB Final Written Decisions"). On February 28, 2022 Nasdaq filed Requests for the USPTO Director to Review the PTAB's Final Written Decisions, which invalidated the patents asserted against MIH in litigation ("Review Requests"). On June 7, 2022, the USPTO Director denied Nasdaq's Review Requests of the PTAB Final Written Decisions.

On August 31, 2021, MIH filed an Answer and Counterclaims in the NJ District Court. MIH's Answer included denials of the allegations made by Nasdaq in the Complaint and Counterclaims including monopolization antitrust claims, patent misuse, sham litigation, and fraud on the USPTO by Nasdaq. MIH is seeking attorneys' fees and costs

# MIAMI INTERNATIONAL SECURITIES EXCHANGE, LLC

## Notes to Financial Statements

As of and for the Year Ended December 31, 2022

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and such other relief as the Court may find to be just and proper. On June 21, 2022, Nasdaq waived its right to appeal the PTAB's Final Written Decisions and the stay in the District Court matter was lifted as all of the PTAB proceedings were concluded with each of the Nasdaq patent claims at issue invalidated. MIH filed an Amended Answer and Counterclaims on August 5, 2022. The Amended Counterclaims added claims of fraud on the patent office and Lanham Act violations. MIH filed a motion to dismiss Nasdaq's trade secret misappropriation claims on September 2, 2022. Nasdaq filed a motion to dismiss MIH's Counterclaims on September 19, 2022. Both dispositive motions are pending. The parties are engaged in discovery in connection with the case. MIH intends to continue defending its interest in this matter vigorously.

### *General*

As a self-regulatory organization under the jurisdiction of the SEC, the Company is subject to routine reviews and inspections by the SEC. Management does not believe that the outcome of any of these reviews or inspections will have a material impact on the statement of financial conditions, the statement of income and changes in member's deficit or cash flows of the Company.

In the normal course of its business, the Company is exposed to asserted and unasserted claims. In the opinion of management, these matters will not have a material adverse effect on the Company's financial position, results of operations or cash flows.

## **8. SUBSEQUENT EVENTS**

The Company has evaluated the possibility of subsequent events existing in the Company's financial statements through June 14, 2023, the date the financial statements were available to be issued. The Company has determined that there are no material events that would require disclosure in the Company's financial statements.



**MIAX PEARL, LLC**

Financial Statements

As of and for the year ended December 31, 2022

(with Independent Auditors' Report Thereon)

# MIAX PEARL, LLC

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KPMG LLP  
345 Park Avenue  
New York, NY 10154-0102

## Independent Auditors' Report

The Board of Directors  
MIAX Pearl, LLC:

### *Opinion*

We have audited the financial statements of MIAX Pearl, LLC (the Company), which comprise the statement of financial condition as of December 31, 2022, and the related statements of income and changes in member's deficit, and cash flows for the year then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.

### *Basis for Opinion*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

### *Auditors' Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.



- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

*KPMG LLP*

New York, New York  
June 14, 2023

**MIAX PEARL, LLC**  
**Statement of Financial Condition**  
**December 31, 2022 (dollars in thousands)**

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<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 24,842
Accounts receivable	25,578
Other current assets	277
Total current assets	<u>50,697</u>
Notes receivable, net	13,701
Other assets	1,200
Total assets	<u><u>\$ 65,598</u></u>
<b>Liabilities and Member's Deficit</b>	
Current liabilities:	
Accounts payable and other liabilities	\$ 27,042
Total current liabilities	<u>27,042</u>
Due to Miami International Holdings, Inc.	121,466
Deferred transaction revenue	72
Total liabilities	<u>148,580</u>
Commitments and contingencies	-
Member's deficit	
Accumulated losses	<u>(82,982)</u>
Total member's deficit	<u>(82,982)</u>
Total liabilities and member's deficit	<u><u>\$ 65,598</u></u>

*See accompanying notes to financial statements.*

**MIAX PEARL, LLC**  
**Statement of Income and Changes in Member's Deficit**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Revenues:	
Transaction fees	\$ 348,506
Access fees	19,845
Market data fees	12,835
Other revenue	38
Total revenues	<u>381,224</u>
Cost of revenues:	
Liquidity payments	303,913
Brokerage and exchange fees	2,230
Section 31 fees	23,542
Equity rights programs	2,972
Total cost of revenues	<u>332,657</u>
Revenues less cost of revenues	48,567
Operating expenses:	
Compensation and benefits	22,183
Information technology and communication costs	16,628
Occupancy costs	1,407
Professional fees and outside services	8,400
Marketing and business development	1,190
General, administrative, and other	2,893
Total operating expenses	<u>52,701</u>
Operating loss	(4,134)
Non-operating income:	
Interest income	152
Net loss	<u>\$ (3,982)</u>
Member's deficit at beginning of year	\$ (79,000)
Net loss	<u>(3,982)</u>
Member's deficit at end of year	<u><u>\$ (82,982)</u></u>

*See accompanying notes to financial statements.*

**MIAX PEARL, LLC**  
**Statement of Cash Flows**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Cash flow from operating activities:		
Net loss	\$	(3,982)
Adjustments to reconcile net loss to net cash used in operating activities:		
Provision for notes receivable credit losses		4,056
Changes in operating assets and liabilities:		
Accounts receivable		(9,289)
Notes receivable		(9,649)
Other assets		75
Accounts payable and other liabilities		13,519
Deferred transaction revenue		(3,964)
Net cash used in operating activities		<u>(9,234)</u>
Cash flow from financing activities:		
Due to Miami International Holdings, Inc.		<u>10,687</u>
Net cash provided by financing activities		<u>10,687</u>
Increase in cash and cash equivalents		1,453
Cash and cash equivalents at beginning of year		<u>23,389</u>
Cash and cash equivalents at end of year	\$	<u><u>24,842</u></u>

*See accompanying notes to financial statements.*

**MIAX PEARL, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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**1. NATURE OF OPERATIONS**

MIAX PEARL, LLC (“PEARL” or the “Company”) is a wholly owned subsidiary of Miami International Holdings, Inc. (the “Parent” or “MIH”), and provides a marketplace for the trading of equity options and cash equities products for its exchange members.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

***Basis of Presentation***

The accompanying financial statements have been prepared in accordance with U.S generally accepted accounting principles (“GAAP”). The accompanying financial statements for the Company have been prepared from the separate records maintained by the Parent and may not necessarily be indicative of the conditions that would have existed or the results of operations if the Company had been operated as an unaffiliated company. Portions of certain income and expenses represent allocations made from the Parent and other affiliated subsidiaries of the Parent to the Company as disclosed. See Note 5 (“Related Party Transactions”) for more information on related party transactions.

***Use of Estimates***

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

***Cash and Cash Equivalents***

The Company's operations are funded by its Parent through a centralized treasury function. Cash and cash equivalents include cash and amounts due from banks and interest-bearing bank balances. The Company places its cash and cash equivalents with financial institutions and at times, cash held in bank accounts may exceed the Federal Deposit Insurance Corporation insurance limit. The Company monitors its risk of loss associated with such balances and deems the risk of loss to be remote. The carrying values of the Company's cash and cash equivalents approximates fair value. The Company did not have any restricted cash as of December 31, 2022.

***Accounts Receivable***

Accounts receivable are concentrated with the Company's member firms and market data distributors and are primarily collected through the Options Clearing Corporation (“OCC”) and the National Securities Clearing Corporation (“NSCC”). Transaction fees are netted against the liquidity payments for each member firm and the balance owed from a member firm is recognized as accounts receivable, net if the amount is to be received and as accounts payable and other liabilities if the amount is owed to the member firm. Management evaluates the Company's accounts receivables periodically and determines an appropriate allowance for uncollectible accounts receivable based on anticipated collections. In circumstances where a specific member firm's inability to meet its financial obligations is probable, the Company records a provision for uncollectible accounts against the member firm's receivable.

***Due to Miami International Holdings, Inc.***

The majority of all of the Company's expenditures to date have been funded by the Parent. In certain instances the Parent's other wholly owned subsidiaries may incur certain expenditure on behalf of the Company. Expenses



# MIAX PEARL, LLC

## Notes to Financial Statements

### As of and for the Year Ended December 31, 2022

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incurred by the Company are settled on its behalf by the Parent or the Parent's other wholly owned subsidiaries and allocated through intercompany charges and are net settled with the Parent resulting in payables due to Miami International Holdings, Inc. See Note 5 ("Related Party Transactions") for more information on related party transactions.

Management has determined that substantially all costs, other than direct financing and other financing related costs, for the build out of a marketplace for the trading of options and cash equities, are primarily attributable to the Company and its affiliates including Miami International Securities Exchange, LLC ("MIAX") and MIAX Emerald, LLC ("Emerald"). The Company's allocated portion of costs are included in the accompanying statement of income and member's deficit. The Company considers changes in Due to Miami International Holdings Inc., to be financing activity for purposes of the statement of cash flows.

#### ***Revenue Recognition***

The Company generates revenues by assessing fees to its member firms for the services it renders, which include providing access to its exchanges, enabling transaction-based trading on its exchanges, and providing access to various market data. Revenue for the Company's services are recognized as control of the services are transferred to the customer. The amount recognized is the amount that reflects the consideration the Company expects to be entitled to in exchange for its services.

The Company determines the transaction price at the outset of the arrangement based on the contractual and payment terms associated with the transaction. The typical term for the Company's contracts with customers ranges from the time it takes to complete a single transaction to one month, depending on the service being provided. Customers are usually billed each month in arrears with standard payment terms, though the Company does occasionally bill customers in advance. Fees associated with each contract are fixed within the month in which the service is provided.

The Company assesses the services promised in the contracts with customers and identifies a performance obligation for each promise to transfer to the customer a service that is distinct—i.e., if such service is separately identifiable and if a customer can benefit from it on its own or with other resources that are readily available to the customer.

*Transaction fees:* Transaction fees represent fees the Company charges to its exchange member firms, as customers, for the performance obligation of executing a trade on the Company's exchange. These fees can be variable based on trade volume tiered discounts; however, as all tiered discounts are calculated monthly, the actual discount is recorded on a monthly basis in accordance with the Company's published fee schedules. Transaction fees are recorded as transactions occur on a trade-date basis.

In the event that a customer prepays for transaction fees, revenue is recognized as transactions occur. Tiered discounts are offered to customers based on the amount of trades that are executed on the Company's exchange. As these are volume driven, they reduce the transaction price and are recorded net in transaction fees on the statement of income and changes in member's deficit. Liquidity payments paid for certain customer transactions are accounted for as consideration payable to a customer and are recorded separately as liquidity payments, which are classified within cost of revenue in the statement of income and changes in member's deficit.

Transaction fees also result in regulatory fees. Regulatory fees include the options regulatory fee ("ORF") and Section 31 fees. ORF is in place to fund the Company's regulatory oversight function of the exchange marketplace and is determined based on the number of customer contracts and cannot be used for non-regulatory purposes. Section 31 fees are transaction fees charged by the SEC to the exchanges. The Section 31 fees charged to customers are based on the fee set by the SEC per notional value of transactions executed on the Company's securities markets and are calculated and billed monthly. The Section 31 fee collected by the Company is ultimately payable to the

**MIAX PEARL, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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SEC, and is therefore classified within cost of revenues in the accompanying statement of income and changes in member's deficit.

*Access fees:* Access fees include allowing the customer to connect its network to one of the Company's exchanges for a specified period of time. Fees for these services are assessed to exchange members for the opportunity to trade and use other related functions of the exchanges. Access fees are billed monthly in accordance with the published fee schedule and recognized during the period the service is provided which is generally one month.

*Market data fees:* Market data fees include making market data available to customers either through direct subscriptions or through the Company's participation in U.S. Tape Plans. Market data revenue includes distributions from the U.S. Tape Plans, which is distributed based upon each individual exchange's market share of U.S. volume, trades, and/or quotes. Market data revenue also includes market data revenue earned from the sale of proprietary market data directly to the customer on a subscription basis. Market data revenue is recognized in the period the data is provided.

*Consideration payable to a customer:* As discussed in the Transaction-based services section above, liquidity payments are accounted for as consideration payable to a customer and reduce revenue in the period in which the rebate is earned by the customer and the rebate is provided. Additionally, the Company issues certain warrants to customers as part of its Equity Rights Programs detailed in Note 7. Under these programs, the Company records the fair value of the number of warrants that vest in a period as a cost of revenues. Customers vest in the warrants as and when they transact certain volumes of trades on the Company's exchanges which is considered a sales incentive offering that rewards customers solely in return for executing increased trading volumes with the Company.

*Deferred revenue:* As of December 31, 2022, the Company had fully amortized deferred revenue representing prepaid transaction and non-transaction fees related to the collection of prepaid fees from customers participating in the Equity Rights Program V program detailed in Note 7. Deferred revenue is amortized to income over the applicable future periods as fees are earned.

***Income Taxes***

The Company has elected to be treated as a disregarded LLC under the provisions of the Internal Revenue Code. All tax effects of Company's income and loss are passed through to the member. Therefore, no provision or liability for Federal Income Taxes is included in these financial statements. In December 2019, the FASB issued ASU 2019-12, Simplifying the Accounting for Income Taxes, which (a) clarified that an entity is not required to allocate consolidated income taxes to a legal entity that is not subject to tax for purposes of that legal entity's separate financial statements. Similar provisions apply for state and local income tax reporting. Accordingly, no provision for income taxes is provided in the accompanying financial statements.

***Recent Accounting Pronouncements***

Recent Accounting Pronouncements - Not yet adopted

In June 2016, the FASB issued ASU No. 2016-13 (amended by ASU 2019-10), Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, regarding the measurement of credit losses for certain financial instruments which replaces the incurred loss model with a current expected credit loss (“CECL”) model. The CECL model is based on historical experience, adjusted for current conditions and reasonable and supportable forecasts. The Company adopted the new guidance as of January 1, 2023 using a modified-retrospective approach with no impact to the opening balance of member's deficit. Accounts receivables are balances with the Company's member firms and market data distributors and are primarily collected through the OCC and the NSCC. The Company's accounts receivable do not have significant credit risk associated as

**MIAX PEARL, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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transaction are netted against liquidity payments for each member firm, mitigating the risk of collection. The financial instruments other than accounts receivable, net that are within the scope of the standard were not materially impacted by the standard.

**3. NOTES RECEIVABLE, NET**

The notes receivable relate to the consolidated audit trail (“CAT”), which involves the creation of an audit trail to enhance regulators' ability to monitor trading activities in the U.S. markets through a phased implementation. The funding for the development of the CAT is ultimately expected to be provided by the Self-Regulated Organizations (“SROs”), which include the Company, and the industry members. The SROs have presented the SEC with a fee model for charging fees, wherein the industry members will be responsible for two-thirds of the CAT cost and the SROs would be responsible for remaining one-third of the CAT cost. The funding to date has been provided by the SROs in exchange for promissory notes, which are expected to be repaid once the industry model is approved by the SEC and such industry member fees are collected. Until those fees are collected, the SROs may continue to incur additional significant costs.

The allowance for notes receivable associated with CAT is estimated based on anticipated collections. The following represents the changes in notes receivable and the allowance for notes receivable for the year ended December 31, 2022 (in thousands):

Notes receivable, gross		
Balance at January 1, 2022	\$	10,920
Additions		9,649
Balance at December 31, 2022		<u>20,569</u>
Allowance for notes receivable		
Balance at January 1, 2022		2,812
Additions		4,056
(Write-off) / recoveries		-
Balance at December 31, 2022		<u>6,868</u>
Notes receivable, net	\$	<u><u>13,701</u></u>

**4. ACCOUNTS PAYABLE AND OTHER LIABILITIES**

The following table presents the components of accounts payable and other liabilities as at December 31, 2022 (in thousands):

Liquidity payments payable	\$	13,176
Section 31 fees payable		10,989
Accounts payable and others		2,877
Accounts payable and other liabilities	\$	<u><u>27,042</u></u>

**MIAX PEARL, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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**5. RELATED PARTY TRANSACTIONS**

The Company utilizes assets and incurs certain liabilities that are held at the Parent level. Substantially all expenses of the Company are settled by the Parent and are charged to the Company, at cost, through intercompany charges. Similar results may not be achievable on an arm's length basis.

The following table presents the Company's allocation of expenses from the Parent and other affiliated subsidiaries of the Parent for the year ended December 31, 2022 (in thousands):

Compensation and benefits	\$	22,183
Information technology and communication costs		16,628
Occupancy costs		1,407
Professional fees and outside services		3,783
Marketing and business development		1,190
General, administrative, and other		2,057
Total operating expenses	\$	<u>47,248</u>

**6. COMMITMENTS AND CONTINGENCIES**

*Claims and Litigation*

*Nasdaq*

On September 1, 2017, Nasdaq, Inc., filed an action against Miami International Holdings, Inc., Miami International Securities Exchange, LLC, MIAX PEARL, LLC and Miami International Technologies, LLC in the U.S. District Court for the District of New Jersey alleging patent infringement and trade secret misappropriation relating to Nasdaq's electronic trading technology and platforms. MIH subsequently filed six petitions before the Patent Trial and Appeal Board ("PTAB") at the United States Patent and Trademark Office ("USPTO") seeking a determination that the subject patent is invalid under the current law. The District Court proceeding was stayed in December 2018, pending resolution of the PTAB proceedings. All claims asserted by Nasdaq against MIH under the six patents at issue were invalidated by the PTAB in 2019 (the "PTAB Final Written Decisions"). On February 28, 2022 Nasdaq filed Requests for the USPTO Director to Review the PTAB's Final Written Decisions, which invalidated the patents asserted against MIH in litigation ("Review Requests"). On June 7, 2022, the USPTO Director denied Nasdaq's Review Requests of the PTAB Final Written Decisions.

On August 31, 2021, MIH filed an Answer and Counterclaims in the NJ District Court. MIH's Answer included denials of the allegations made by Nasdaq in the Complaint and Counterclaims including monopolization antitrust claims, patent misuse, sham litigation, and fraud on the USPTO by Nasdaq. MIH is seeking attorneys' fees and costs and such other relief as the Court may find to be just and proper. On June 21, 2022, Nasdaq waived its right to appeal the PTAB's Final Written Decisions and the stay in the District Court matter was lifted as all of the PTAB proceedings were concluded with each of the Nasdaq patent claims at issue invalidated. MIH filed an Amended Answer and Counterclaims on August 5, 2022. The Amended Counterclaims added claims of fraud on the patent office and Lanham Act violations. MIH filed a motion to dismiss Nasdaq's trade secret misappropriation claims on September 2, 2022. Nasdaq filed a motion to dismiss MIH's Counterclaims on September 19, 2022. Both dispositive motions are pending. The parties are engaged in discovery in connection with the case. MIH intends to continue defending its interest in this matter vigorously.

**MIAX PEARL, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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*General*

As a self-regulatory organization under the jurisdiction of the SEC, the Company is subject to routine reviews and inspections by the SEC. Management does not believe that the outcome of any of these reviews or inspections will have a material impact on the statement of financial conditions, the statement of income and changes in member's deficit or cash flows of the Company.

In the normal course of its business, the Company is exposed to asserted and unasserted claims. In the opinion of management, these matters will not have a material adverse effect on the Company's financial position, results of operations or cash flows.

**7. EQUITY**

PEARL is a single member limited liability company and has issued 100 membership units constituting 100% membership interest in the Company to MIH who is the Company's sole member. PEARL has not made any distributions for the period from February 11, 2016 (inception) through December 31, 2022.

***Equity Rights Offering V ("ERP V")***

MIH launched its first Equity Rights Program ("ERP") in September 2013 and subsequently introduced four additional ERPs between February 2015 and September 2020. Each ERP included a certain number of units allowing the Company's customers to obtain common stock warrants in return for a prepaid fee, which is applied to future purchases by the customer of the Company's services. The customer vests in the common stock warrants in tranches over designated time periods based on certain performance criteria, which generally require the customer to execute qualifying trades on the Company's exchanges in an amount equal to a specified fixed percentage of the average daily volume of trades on the applicable exchange.

On September 11, 2020, the Parent closed a fifth equity rights offering with nine firms for 22 L-Units providing for the issuance of warrants to purchase a total of 9,507,586 shares of common stock, representing 432,163 shares per L-Unit. The L-Warrants vest over a 42 month period provided that the participant met the specific performance criteria, which required the participants trade an agreed-upon number of equities contracts, subject to certain exceptions, on MIAX Pearl on a daily basis over a specified number of months. In the event of a Qualified Public Offering, merger or other liquidating event, it will result in the immediate vesting of all unvested Warrants that remain eligible to vest with the L-Unit participant. The warrants expire earliest from (i) September 11, 2027, (ii) or the two year anniversary of a Qualified Public Offering, (iii) or a merger or sale of the Parent. Upon closing, MIH collected \$22 million of prepaid fees from participating member firms. The Company amortized \$4.0 million of the prepaid fees during the year ended December 31, 2022. There is no remaining unamortized balance as of December 31, 2022.

The shares of common stock and warrants issued under ERP V are classified as equity instruments on the Parent's consolidated balance sheets. The ERP Awards are determined to be consideration payable to a customer and recorded as cost of revenue on the Company's statement of income and changes in member's deficit, based on the grant date fair value of the awards.

**8. SUBSEQUENT EVENTS**

The Company has evaluated the possibility of subsequent events existing in the Company's financial statements through June 14, 2023, the date the financial statements were available to be issued. The Company has determined that there are no material events that would require disclosure in the Company's financial statements.

**MIAMI INTERNATIONAL TECHNOLOGIES, LLC**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**Miami International Technologies, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

**Assets**

Current assets:

Cash and cash equivalents	\$	57
Accounts receivable		38
Total current assets		<u>95</u>
Total assets	\$	<u>95</u>

**Liabilities and member's deficit**

Due to Miami International Holdings, Inc.	\$	17,829
Total liabilities		<u>17,829</u>
Member's deficit		
Accumulated deficit		<u>(17,734)</u>
Total member's deficit		<u>(17,734)</u>
Total liabilities and member's deficit	\$	<u>95</u>

**Miami International Technologies, LLC**  
**Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022 (dollars in thousands)**

Revenues:	
Other revenue	\$ 743
Total revenues	<u>743</u>
Operating expenses:	
Compensation and benefits	2,655
Information technology and communication costs	259
Occupancy costs	69
Professional fees and outside services	440
Marketing and business development	82
General, administrative, and other	<u>61</u>
Total operating expenses	<u>3,566</u>
Operating loss	(2,823)
Net loss	<u><u>\$ (2,823)</u></u>



**MIAX FUTURES, LLC**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**MIAX Futures, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

**Assets**

Current assets:

Other assets	\$ 1,000
Total assets	<u>\$ 1,000</u>

**Liabilities and member's deficit**

Current liabilities:

Accounts payable and other liabilities	\$ 288
Total current liabilities	288

Due to Miami International Holdings, Inc.	35,764
Total liabilities	<u>36,052</u>

Member's deficit

Accumulated deficit	(35,052)
Total member's deficit	<u>(35,052)</u>

Total liabilities and member's deficit	<u>\$ 1,000</u>
--	-----------------

**MIAX Futures, LLC**  
**Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022 (dollars in thousands)**

Operating expenses:		
Compensation and benefits	\$	4,513
Information technology and communication costs		549
Occupancy costs		129
Professional fees and outside services		266
Marketing and business development		7,213
General, administrative, and other		<u>108</u>
Total operating expenses		<u>12,778</u>
Operating loss		(12,778)
Net loss	\$	<u>(12,778)</u>

**THE BERMUDA STOCK EXCHANGE**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**The Bermuda Stock Exchange**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 2,176
Accounts receivable	149
Prepaid and other current assets	<u>109</u>
Total current assets	<u>2,434</u>
Fixed assets, net	3,110
Other assets	<u>260</u>
Total assets	<u><u>\$ 5,804</u></u>
<b>Liabilities and member's equity</b>	
Current liabilities:	
Accounts payable and other liabilities	\$ 410
Deferred transaction revenue	<u>983</u>
Total current liabilities	1,393
Due to Miami International Holdings, Inc.	<u>1,053</u>
Total liabilities	2,446
Equity:	
Share capital and contributed surplus	6,481
Deficit	<u>(3,123)</u>
Total equity	<u>3,358</u>
Total liabilities and equity	<u><u>\$ 5,804</u></u>

**The Bermuda Stock Exchange**  
**Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022 (dollars in thousands)**

Revenues:		
Transaction fees	\$	239
Access fees		129
Market data fees		377
Other revenue		2,413
Total revenues		<u>3,159</u>
Operating expenses:		
Compensation and benefits		1,546
Information technology and communication costs		286
Depreciation and amortization		297
Occupancy costs		548
Professional fees and outside services		565
Marketing and business development		50
General, administrative, and other		266
Total operating expense		<u>3,560</u>
Operating loss		(401)
Non-operating expense:		
Other expenses		<u>(635)</u>
Net loss	\$	<u><u>(1,036)</u></u>

**M 402 HOLDINGS, LLC**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**M 402 Holdings, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

	<b>Assets</b>	
Investment in subsidiaries		\$ 121,320
Total assets		<u>\$ 121,320</u>
	<b>Liabilities and member's equity</b>	
Member's equity		
Contribution from parent		\$ 121,320
Total member's equity		<u>121,320</u>
Total liabilities and member's equity		<u>\$ 121,320</u>

*There is no income statement activity during the year ended December 31, 2022. Hence the Statement of Income is not presented*



**MINNEAPOLIS GRAIN EXCHANGE, LLC**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**Minneapolis Grain Exchange, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 15,335
Accounts receivable	445
Restricted cash	6,000
Clearing house performance bonds and guarantee funds	153,057
Other current assets	<u>358</u>
Total current assets	<u>175,195</u>
Fixed assets, net	18,248
Other assets	<u>192</u>
Total assets	<u>\$ 193,635</u>
<b>Liabilities and member's equity</b>	
Current liabilities:	
Accounts payable and other liabilities	\$ 2,870
Clearing house performance bonds and guarantee funds	<u>153,057</u>
Total current liabilities	155,927
Due to Miami International Holdings, Inc.	<u>35</u>
Total liabilities	155,962
Member's equity	
Total member's equity	<u>37,673</u>
Total liabilities and member's equity	<u>\$ 193,635</u>

**Minneapolis Grain Exchange, LLC**  
**Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022 (dollars in thousands)**

Revenues:	
Transaction fees	\$ 7,515
Market data fees	2,700
Other revenue	<u>6,104</u>
Total revenues	<u>16,319</u>
Cost of Revenue:	
Liquidity payments	672
Brokerage, clearing, and exchange fees	<u>780</u>
Total cost of revenue	<u>1,452</u>
Revenues less cost of revenues	14,867
Operating expenses:	
Compensation and benefits	6,595
Information technology and communication costs	565
Depreciation and amortization	1,802
Occupancy costs	2,246
Professional fees and outside services	380
Marketing and business development	60
General, administrative, and other	<u>1,088</u>
Total operating expense	<u>12,736</u>
Operating income	2,131
Non-operating expense:	
Interest expense	<u>(89)</u>
Net profit	<u>\$ 2,042</u>

**DORMAN TRADING, LLC**

Financial Statements (Unaudited)

As of and for the post-acquisition period ended December 31, 2022

**Dorman Trading, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

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**Assets**

Current assets:

Cash and cash equivalents	\$	3,850
Cash and securities segregated under federal and other regulations		19,528
Accounts receivable		107
Receivables from broker-dealers, futures commission merchants, and clearing organizations		97,461
Other current assets		<u>7,882</u>
Total current assets		128,828

Other assets

		<u>3,657</u>
Total assets	\$	<u>132,485</u>

**Liabilities and member's equity**

Current liabilities:

Accounts payable and other liabilities	\$	3,915
Accrued compensation payable		719
Payables to customers		105,256
Payables to clearing organizations		<u>869</u>
Total current liabilities		110,760

Deferred income taxes

1,846

Other non-current liabilities

867

Total liabilities		113,473
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Member's equity

Total member's equity		<u>19,012</u>
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Total liabilities and member's equity	\$	<u>132,485</u>
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**Dorman Trading, LLC**  
**Statement of Income (Unaudited)**  
**For the period October 19, 2022 to December 31, 2022 (dollars in thousands)**

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Revenues:		
Transaction fees	\$	9,904
Access fees		141
Market data fees		147
Other revenue		<u>745</u>
Total revenues		<u>10,937</u>
Cost of Revenue:		
Liquidity payments		857
Brokerage, clearing, and exchange fees		8,383
Other		<u>500</u>
Total cost of revenue		<u>9,740</u>
Revenues less cost of revenues		1,197
Operating expenses:		
Compensation and benefits		991
Information technology and communication costs		118
Occupancy costs		91
Professional fees and outside services		106
General, administrative, and other		<u>30</u>
Total operating expense		<u>1,337</u>
Operating loss		(139)
Non-operating income:		
Other income		<u>61</u>
Loss before income tax provision		(79)
Income tax benefit		<u>252</u>
Net profit	\$	<u>174</u>

**COVEXITYSHARES, LLC**

Financial Statements (Unaudited)

As of and for the year ended December 31, 2022

**CONVEXITYSHARES, LLC**  
**Statement of Financial Condition (Unaudited)**  
**December 31, 2022 (dollars in thousands)**

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**Assets**

Current assets:

Cash and cash equivalents	\$	106
Prepaid and other current assets		34
Total current assets		<u>140</u>

Total assets	\$	<u><u>140</u></u>
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**Liabilities and member's deficit**

Current liabilities:

Accounts payable and other liabilities	\$	114
Total current liabilities		<u>114</u>

Due to Miami International Holdings, Inc.		253
Total liabilities		<u>367</u>

Member's deficit

Member's contribution		551
Accumulated losses		<u>(778)</u>
Total member's deficit		<u>(227)</u>
Total liabilities and member's deficit	\$	<u><u>140</u></u>



**CONVEXITYSHARES, LLC**  
**Statement of Income (Unaudited)**  
**For the Year Ended December 31, 2022**

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Revenue	\$	12
Total revenues		12
Cost of revenues		-
Total cost of revenues		-
Revenues less cost of revenues		12
Operating expenses:		
Information technology and communication costs		28
Professional fees and outside services		409
General, administrative, and other		44
Total operating expenses		481
Operating loss		(469)
Net loss	\$	(469)

**MIAX EMERALD, LLC**

Financial Statements

As of and for the year ended December 31, 2022

(with Independent Auditors' Report Thereon)

# MIAX EMERALD, LLC

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KPMG LLP  
345 Park Avenue  
New York, NY 10154-0102

## Independent Auditors' Report

The Board of Directors  
MIAX Emerald, LLC:

### *Opinion*

We have audited the financial statements of MIAX Emerald, LLC (the Company), which comprise the statement of financial condition as of December 31, 2022, and the related statements of income and changes in member's deficit/equity, and cash flows for the year then ended, and the related notes to the financial statements.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.

### *Basis for Opinion*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

### *Auditors' Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.



- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

*KPMG LLP*

New York, New York  
June 14, 2023

**MIAX EMERALD, LLC**  
**Statement of Financial Condition**  
**December 31, 2022 (dollars in thousands)**

---

<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 10,570
Accounts receivable	11,487
Other current assets	79
Total current assets	<u>22,136</u>
Notes receivable, net	8,101
Other assets	1,045
Total assets	<u>\$ 31,282</u>
<b>Liabilities And Member's Equity</b>	
Current liabilities:	
Accounts payable and other liabilities	<u>\$ 7,779</u>
Total current liabilities	7,779
Due to Miami International Holdings, Inc.	9,642
Deferred transaction revenue	51
Total liabilities	<u>17,472</u>
Commitments and contingencies	-
Member's equity:	
Retained earnings	<u>13,810</u>
Total member's equity	<u>13,810</u>
Total liabilities and member's equity	<u>\$ 31,282</u>

*See accompanying notes to financial statements.*

**MIAX EMERALD, LLC**  
**Statement of Income and Changes in Member's Deficit/Equity**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Revenues:	
Transaction fees	\$ 182,724
Access fees	20,695
Market data fees	4,895
Other revenue	10
Total revenues	<u>208,324</u>
Cost of revenues:	
Liquidity payments	154,994
Brokerage and exchange fees	1,089
Section 31 fees	5,386
Total cost of revenues	<u>161,469</u>
Revenues less cost of revenues	46,855
Operating expenses:	
Compensation and benefits	10,023
Information technology and communication costs	5,799
Occupancy costs	631
Professional fees and outside services	4,909
Marketing and business development	538
General, administrative, and other	1,804
Total operating expenses	<u>23,704</u>
Operating income	23,151
Non-operating income:	
Interest income	109
Net profit	<u>\$ 23,260</u>
Member's deficit at beginning of year	\$ (9,450)
Net profit	<u>23,260</u>
Member's equity at end of year	<u>\$ 13,810</u>

*See accompanying notes to financial statements.*

**MIAX EMERALD, LLC**  
**Statement of Cash Flows**  
**Year Ended December 31, 2022 (dollars in thousands)**

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Cash flow from operating activities:	
Net profit	\$ 23,260
Adjustments to reconcile net profit to net cash provided by operating activities:	
Provision for notes receivable credit losses	2,293
Changes in operating assets and liabilities:	
Accounts receivable	10,710
Notes receivable	(5,226)
Other assets	265
Accounts payable and other liabilities	(11,595)
Deferred transaction revenue	25
Net cash provided by operating activities	<u>19,732</u>
Cash flow from financing activities:	
Due to Miami International Holdings, Inc.	<u>(28,122)</u>
Net cash used in financing activities	<u>(28,122)</u>
Decrease in cash and cash equivalents	(8,390)
Cash and cash equivalents at beginning of year	<u>18,960</u>
Cash and cash equivalents at end of year	<u>\$ 10,570</u>

*See accompanying notes to financial statements.*



**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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**1. NATURE OF OPERATIONS**

MIAX Emerald, LLC (“Emerald” or the “Company”), a wholly owned subsidiary of Miami International Holdings, Inc. (the “Parent” or “MIH”), provides a marketplace for the trading of equity options products for its exchange members.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Basis of Presentation*

The accompanying financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”). The accompanying financial statements for the Company have been prepared from the separate records maintained by the Parent and may not necessarily be indicative of the conditions that would have existed or the results of operations if the Company had been operated as an unaffiliated company. Portions of certain income and expenses represent allocations made from the Parent and other affiliated subsidiaries of the Parent to the Company as disclosed. See Note 5 (“Related Party Transactions”) for more information on related party transactions.

*Use of Estimates*

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, and the reported amounts of income and expenses during the reporting period. Actual results could differ from those estimates.

*Cash and Cash Equivalents*

The Company's operations are funded by its Parent through a centralized treasury function. Cash and cash equivalents include cash and amounts due from banks and interest-bearing bank balances. The Company places its cash and cash equivalents with financial institutions and at times, cash held in bank accounts may exceed the Federal Deposit Insurance Corporation insurance limit. The Company monitors its risk of loss associated with such balances and deems the risk of loss to be remote. The carrying values of the Company's cash and cash equivalents approximates fair value. The Company did not have any restricted cash as of December 31, 2022.

*Accounts Receivable*

Accounts receivable are concentrated with the Company's member firms and market data distributors and are primarily collected through the Options Clearing Corporation (“OCC”). Transaction fees are netted against the liquidity payments for each member firm and the balance owed from a member firm is recognized as accounts receivable, net if the amount is to be received and as accounts payable and other liabilities if the amount is owed to the member firm. Management evaluates the Company's accounts receivables periodically and determines an appropriate allowance for uncollectible accounts receivable based on anticipated collections. In circumstances where a specific member firm's inability to meet its financial obligations is probable, the Company records a provision for uncollectible accounts against the member firm's receivable.

**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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***Due to Miami International Holdings, Inc.***

The majority of the Company's expenditures to date have been funded by the Parent. In certain instances, the Parent's other wholly owned subsidiaries may incur certain expenditure on behalf of the Company. Expenses incurred by the Company are settled on its behalf by the Parent or the Parent's other wholly owned subsidiaries and allocated through intercompany charges and are net settled with the Parent resulting in payables due to Miami International Holdings, Inc. See Note 5 ("Related Party Transactions") for more information on related party transactions.

Management has determined that substantially all costs, other than direct financing and other financing related costs, for the build out of a marketplace for the trading of options and cash equities, are primarily attributable to the Company and its affiliates including Miami International Securities Exchange, LLC ("MIAX") and MIAX PEARL, LLC ("PEARL"). The Company's allocated portion of cost are included in the accompanying statement of income and member's deficit/equity. The Company considers changes in Due to Miami International Holdings, Inc. to be financing activity for purposes of the statement of cash flows.

***Revenue Recognition***

The Company generates revenues by assessing fees to its member firms for the services it renders, which include providing access to the exchange, enabling transaction-based trading on the exchange, and providing access to various market data. Revenue for the Company's services are recognized as control of the services are transferred to the customer. The amount recognized is the amount that reflects the consideration the Company expects to be entitled to in exchange for its services.

The Company determines the transaction price at the outset of the arrangement based on the contractual and payment terms associated with the transaction. The typical term for the Company's contracts with customers ranges from the time it takes to complete a single transaction to one month, depending on the service being provided. Customers are usually billed each month in arrears with standard payment terms, though the Company does occasionally bill customers in advance. Fees associated with each contract are fixed within the month in which the service is provided.

The Company assesses the services promised in the contracts with customers and identifies a performance obligation for each promise to transfer to the customer a service that is distinct—i.e., if such service is separately identifiable and if a customer can benefit from it on its own or with other resources that are readily available to the customer.

*Transaction fees:* Transaction fees represent fees the Company charges to its exchange member firms, as customers, for the performance obligation of executing a trade on the Company's exchange. These fees can be variable based on trade volume tiered discounts; however, as all tiered discounts are calculated monthly, the actual discount is recorded on a monthly basis in accordance with the Company's published fee schedules. Transaction fees are recorded as transactions occur on a trade-date basis.

In the event that a customer prepays for transaction fees, revenue is recognized as transactions occur. Tiered discounts are offered to customers based on the amount of trades that are executed on the Company's exchange. As these are volume driven, they reduce the transaction price and are recorded net in transaction fees on the statement of income and changes in member's deficit/equity. Liquidity payments paid for certain customer transactions are accounted for as consideration payable to a customer and are recorded separately as liquidity payments, which are classified within cost of revenue in the statement of income and changes in member's deficit/equity.

**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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Transaction fees also result in regulatory fees. Regulatory fees include the options regulatory fee (“ORF”) and Section 31 fees. ORF is in place to fund the Company’s regulatory oversight function of the exchange marketplace and is determined based on the number of customer contracts and cannot be used for non-regulatory purposes. Section 31 fees are transaction fees charged by the SEC to the exchanges. The Section 31 fees charged to customers are based on the fee set by the SEC per notional value of transactions executed on the Company’s securities markets and are calculated and billed monthly. The Section 31 fee collected by the Company is ultimately payable to the SEC, and is therefore classified within cost of revenue in the accompanying statement of income and changes in member's deficit/equity.

*Access fees:* Access fees include allowing the customer to connect its network to the Company’s exchange for a specified period of time. Fees for these services are assessed to exchange members for the opportunity to trade and use other related functions of the exchanges. Access fees are billed monthly in accordance with the published fee schedule and recognized during the period the service is provided which is generally one month.

*Market data fees:* Market data fees include making market data available to customers either through direct subscriptions or through the Company’s participation in U.S. Tape Plans. Market data revenue includes distributions from the U.S. Tape Plans, which is distributed based upon each individual exchange’s market share of U.S. volume, trades, and/or quotes. Market data revenue also includes market data revenue earned from the sale of proprietary market data directly to the customer on a subscription basis. Market data revenue is recognized in the period the data is provided.

*Consideration payable to a customer:* As discussed in the Transaction-based services section above, liquidity payments are accounted for as consideration payable to a customer and reduce revenue in the period in which the rebate is earned by the customer and the rebate is provided.

***Income Taxes***

The Company has elected to be treated as a disregarded LLC under the provisions of the Internal Revenue Code. All tax effects of Company's income and loss are passed through to the member. Therefore, no provision or liability for Federal Income Taxes is included in these financial statements. In December 2019, the FASB issued ASU 2019-12, Simplifying the Accounting for Income Taxes, which (a) clarified that an entity is not required to allocate consolidated income taxes to a legal entity that is not subject to tax for purposes of that legal entity's separate financial statements. Similar provisions apply for state and local income tax reporting. Accordingly, no provision for income taxes is provided in the accompanying financial statements.

***Recent Accounting Pronouncements***

Recent Accounting Pronouncements - Not yet adopted

In June 2016, the FASB issued ASU No. 2016-13 (amended by ASU 2019-10), Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, regarding the measurement of credit losses for certain financial instruments which replaces the incurred loss model with a current expected credit loss (“CECL”) model. The CECL model is based on historical experience, adjusted for current conditions and reasonable and supportable forecasts. The Company adopted the new guidance as of January 1, 2023 using a modified-retrospective approach with no impact to the opening balance of retained earnings. Accounts receivables are balances with the Company's member firms and market data distributors and are primarily collected through the OCC. The Company's accounts receivable do not have significant credit risk as transaction fees are netted against liquidity payments for each member firm, mitigating the risk of collection. The financial instruments other than accounts receivable, net that are within the scope of the standard were not materially impacted by the standard.

**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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**3. NOTES RECEIVABLE, NET**

The notes receivable relate to the consolidated audit trail (“CAT”), which involves the creation of an audit trail to enhance regulators' ability to monitor trading activities in the U.S. markets through a phased implementation. The funding for the development of the CAT is ultimately expected to be provided by the Self-Regulated Organizations (“SROs”), which include the Company, and the industry members. The SROs have presented the SEC with a fee model for charging fees, wherein the industry members will be responsible for two-thirds of the CAT cost and the SROs would be responsible for remaining one-third of the CAT cost. The funding to date has been provided by the SROs in exchange for promissory notes, which are expected to be repaid once the industry model is approved by the SEC and such industry member fees are collected. Until those fees are collected, the SROs may continue to incur additional significant costs.

The allowance for notes receivable associated with CAT is estimated based on anticipated collections. The following represents the changes in notes receivable and allowance for notes receivable for the year ended December 31, 2022 (in thousands):

Notes receivable, gross		
Balance at January 1, 2022	\$	6,932
Additions		5,226
Balance at December 31, 2022		<u>12,158</u>
Allowance for notes receivable		
Balance at January 1, 2022		1,764
Additions		2,293
(Write-off) / recoveries		-
Balance at December 31, 2022		<u>4,057</u>
Notes receivable, net	\$	<u><u>8,101</u></u>

**4. ACCOUNTS PAYABLE AND OTHER LIABILITIES**

The following table presents the components of accounts payable and other liabilities as at December 31, 2022 (in thousands):

Liquidity payments payable	\$	4,604
Section 31 fees payable		2,211
Accounts payable and other		964
Accounts payable and other liabilities	\$	<u><u>7,779</u></u>

**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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**5. RELATED PARTY TRANSACTIONS**

The Company utilizes assets and incurs certain liabilities that are held at the Parent level. Substantially all expenses of the Company are settled by the Parent and are charged to the Company, at cost, through intercompany charges. Similar results may not be achievable on an arm's length basis. The following table presents the Company's allocation of expenses from the Parent and other affiliated subsidiaries of the Parent for the year ended December 31, 2022 (in thousands):

Compensation and benefits	\$	10,023
Information technology and communication costs		5,799
Occupancy costs		631
Professional fees and outside services		2,366
Marketing and business development		538
General, administrative, and other		1,234
Total operating expenses	\$	<u>20,591</u>

**6. COMMITMENTS AND CONTINGENCIES**

*Nasdaq*

On September 1, 2017, Nasdaq, Inc., filed an action against Miami International Holdings, Inc., Miami International Securities Exchange, LLC, MIAX PEARL, LLC and Miami International Technologies, LLC in the U.S. District Court for the District of New Jersey alleging patent infringement and trade secret misappropriation relating to Nasdaq's electronic trading technology and platforms. MIH subsequently filed six petitions before the Patent Trial and Appeal Board ("PTAB") at the United States Patent and Trademark Office ("USPTO") seeking a determination that the subject patent is invalid under the current law. The District Court proceeding was stayed in December 2018, pending resolution of the PTAB proceedings. All claims asserted by Nasdaq against MIH under the six patents at issue were invalidated by the PTAB in 2019 (the "PTAB Final Written Decisions"). On February 28, 2022 Nasdaq filed Requests for the USPTO Director to Review the PTAB's Final Written Decisions, which invalidated the patents asserted against MIH in litigation ("Review Requests"). On June 7, 2022, the USPTO Director denied Nasdaq's Review Requests of the PTAB Final Written Decisions.

On August 31, 2021, MIH filed an Answer and Counterclaims in the NJ District Court. MIH's Answer included denials of the allegations made by Nasdaq in the Complaint and Counterclaims including monopolization antitrust claims, patent misuse, sham litigation, and fraud on the USPTO by Nasdaq. MIH is seeking attorneys' fees and costs and such other relief as the Court may find to be just and proper. On June 21, 2022, Nasdaq waived its right to appeal the PTAB's Final Written Decisions and the stay in the District Court matter was lifted as all of the PTAB proceedings were concluded with each of the Nasdaq patent claims at issue invalidated. MIH filed an Amended Answer and Counterclaims on August 5, 2022. The Amended Counterclaims added claims of fraud on the patent office and Lanham Act violations. MIH filed a motion to dismiss Nasdaq's trade secret misappropriation claims on September 2, 2022. Nasdaq filed a motion to dismiss MIH's Counterclaims on September 19, 2022. Both dispositive motions are pending. The parties are engaged in discovery in connection with the case. MIH intends to continue defending its interest in this matter vigorously.

**MIAX EMERALD, LLC**  
**Notes to Financial Statements**  
**As of and for the Year Ended December 31, 2022**

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*General*

As a self-regulatory organization under the jurisdiction of the SEC, the Company is subject to routine reviews and inspections by the SEC. Management does not believe that the outcome of any of these reviews or inspections will have a material impact on the statement of financial conditions, the statement of income and changes in member's deficit or cash flows of the Company.

In the normal course of its business, the Company is exposed to asserted and unasserted claims. In the opinion of management, these matters will not have a material adverse effect on the Company's financial position, results of operations or cash flows.

**7. SUBSEQUENT EVENTS**

The Company has evaluated the possibility of subsequent events existing in the Company's financial statements through June 14, 2023, the date the financial statements were available to be issued. The Company has determined that there are no material events that would require disclosure in the Company's financial statements.

**ABN AMRO CLEARING USA LLC**

175 West Jackson Blvd., Ste. 2050  
 Chicago IL 60604  
 Tele #: (312) 604-8000

Approval Date: 3/1/2019  
**Membership Activities:**  
 Clearance  
 International Tele #

SEC #: 8-34354  
 CRD #: 14020

**APEX CLEARING CORPORATION**

One Dallas Center  
 350 N. St. Paul, Suite 1300  
 Dallas TX 75201  
 Tele #: (214) 765-1100

Approval Date: 3/1/2019  
**Membership Activities:**  
 Clearance  
 International Tele #

SEC #: 8-23522  
 CRD #: 13071

**BARCLAYS CAPITAL INC.**

745 Seventh Avenue  
 New York NY 10019  
 Tele #: (212) 526-7000

Approval Date: 3/1/2019  
**Membership Activities:**  
 Order Entry & Clearance  
 International Tele #

SEC #: 8-41342  
 CRD #: 19714

**BELVEDERE TRADING LLC**

10 S. Riverside Plaza, Suite 2100  
 Chicago IL 60606  
 Tele #: (312) 893-3750

Approval Date: 9/15/2022  
**Membership Activities:**  
 Primary Lead, Lead & Registered Market Maker  
 International Tele #

SEC #: 8-66612  
 CRD #: 132605

**BOFA SECURITIES, INC.**

One Bryant Park  
 New York NY 10036  
 Tele #: (646) 743-2734

Approval Date: 3/1/2019  
**Membership Activities:**  
 Order Entry & Clearance  
 International Tele #

SEC #: 8-69787  
 CRD #: 283942

**CITADEL SECURITIES LLC**

131 South Dearborn Street - 32nd Floor  
 Chicago IL 60603  
 Tele #: (312) 395-2100

Approval Date: 3/1/2019  
**Membership Activities:**  
 Primary Lead, Lead, Registered Market Maker & Order Entry  
 International Tele #

SEC #: 8-53574  
 CRD #: 116797

**CITIGROUP GLOBAL MARKETS INC.**

Tower Building  
 388 Greenwich Street  
 New York NY 10013  
 Tele #: (212) 816-6000

Approval Date: 5/1/2019  
**Membership Activities:**  
 Order Entry & Clearance  
 International Tele #

SEC #: 8-8177  
 CRD #: 7059

**CREDIT SUISSE SECURITIES (USA) LLC**

11 Madison Avenue - 24th Floor  
 New York NY 10010  
 Tele #: (212) 325-2000

Approval Date: 3/1/2019  
**Membership Activities:**  
 Order Entry & Clearance  
 International Tele #

SEC #: 8-00422  
 CRD #: 816

**DASH FINANCIAL TECHNOLOGIES LLC**

200 S. Wacker Drive, Ste. 2450  
 Chicago IL 60606  
 Tele #: (312) 986-2006

Approval Date: 3/1/2019  
**Membership Activities:**  
 Order Entry & Clearance  
 International Tele #

SEC #: 8-52503  
 CRD #: 104031

**GLOBAL EXECUTION BROKERS, LP**

401 City Avenue, Ste. 200

Bala Cynwyd PA 19004

Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-65878

**Membership Activities:**

CRD #: 126407

Order Entry

International Tele #

**GOLDMAN SACHS & CO. LLC**

200 West Street

New York NY 10282

Tele #: (212) 902-1000

Approval Date: 3/1/2019

SEC #: 8-129

**Membership Activities:**

CRD #: 361

Order Entry & Clearance

International Tele #

**GROUP ONE TRADING LP**

425 S. Financial Place - Ste. 3400

Chicago IL 60605

Tele #: (312) 347-8864

Approval Date: 3/1/2019

SEC #: 8-47762

**Membership Activities:**

CRD #: 37484

Order Entry

International Tele #

**GTS SECURITIES LLC**

545 Madison Avenue, 15th Fl.

New York NY 10022

Tele #: (212) 715-2830

Approval Date: 3/22/2022

SEC #: 8-68126

**Membership Activities:**

CRD #: 149224

Lead & Registered Market Maker

International Tele #

**HRT FINANCIAL LP**

175 Greenwich Street - 76th Floor

3 World Trade Center

New York NY 10007

Tele #: (212) 293-1444

Approval Date: 3/1/2019

SEC #: 8-68430

**Membership Activities:**

CRD #: 152144

Registered Market Maker

International Tele #

**IMC-CHICAGO, LLC D/B/A IMC FINANCIAL MARKETS**

233 South Wacker Drive, Ste. 4300

Chicago IL 60606

Tele #: (312) 244-3300

Approval Date: 3/1/2019

SEC #: 8-52600

**Membership Activities:**

CRD #: 104143

Primary Lead, Lead & Registered Market Maker

International Tele #

**INSTINET, LLC**

Worldwide Plaza

309 West 49th Street

New York NY 10019

Tele #: (212) 310-9500

Approval Date: 3/1/2019

SEC #: 8-23669

**Membership Activities:**

CRD #: 7897

Order Entry & Clearance

International Tele #

**INTERACTIVE BROKERS LLC**

One Pickwick Plaza - 2nd Floor

Greenwich CT 06830

Tele #: (203) 618-5710

Approval Date: 3/1/2019

SEC #: 8-47257

**Membership Activities:**

CRD #: 36418

Order Entry & Clearance

International Tele #

**J.P. MORGAN SECURITIES LLC**

383 Madison Avenue

New York NY 10179

Tele #: (212) 272-2000

Approval Date: 3/1/2019

SEC #: 8-35008

**Membership Activities:**

CRD #: 79

Order Entry & Clearance

International Tele #



**JANE STREET CAPITAL, LLC**

250 Vesey Street - 5th Floor  
 New York NY 10281  
 Tele #: (646) 759-6000

Approval Date: 3/8/2019

**Membership Activities:**

Order Entry  
 International Tele #

SEC #: 8-52275

CRD #: 103782

**JANE STREET OPTIONS, LLC**

250 Vesey Street - 5th Floor  
 New York NY 10281  
 Tele #: (646) 759-6000

Approval Date: 3/8/2019

**Membership Activities:**

Registered Market Maker & Order Entry  
 International Tele #

SEC #: 8-66813

CRD #: 134159

**JEFFERIES LLC**

520 Madison Avenue - 11th Floor  
 New York NY 10022  
 Tele #: (212) 284-2300

Approval Date: 3/1/2019

**Membership Activities:**

Order Entry & Clearance  
 International Tele #

SEC #: 8-15074

CRD #: 2347

**JUMP TRADING, LLC**

600 West Chicago Avenue, Ste. 600  
 Chicago IL 60654  
 Tele #: (312) 205-8900

Approval Date: 12/9/2019

**Membership Activities:**

Registered Market Maker  
 International Tele #

SEC #: 8-52989

CRD #: 106124

**MATRIX EXECUTIONS, LLC**

135 S. LaSalle Street, Ste. 3900  
 Chicago IL 60603  
 Tele #: (312) 334-8000

Approval Date: 3/1/2019

**Membership Activities:**

Order Entry  
 International Tele #

SEC #: 8-48255

CRD #: 38455

**MERRILL LYNCH PROFESSIONAL CLEARING CORP.**

One Bryant Park - 6th Floor  
 NY1-100-06-01  
 New York NY 10036  
 Tele #: (646) 743-1295

Approval Date: 3/1/2019

**Membership Activities:**

Clearance  
 International Tele #

SEC #: 8-33359

CRD #: 16139

**MORGAN STANLEY & CO. LLC**

1585 Broadway  
 New York NY 10036  
 Tele #: (212) 761-4000

Approval Date: 3/1/2019

**Membership Activities:**

All Market Maker & Electronic Exchange Options Memberships  
 International Tele #

SEC #: 8-15869

CRD #: 8209

**OPTIVER US LLC**

130 E. Randolph Street, Ste. 1300  
 Chicago IL 60601  
 Tele #: (312) 821-9500

Approval Date: 3/1/2019

**Membership Activities:**

Primary Lead, Lead & Registered Market Maker  
 International Tele #

SEC #: 8-66083

CRD #: 128030

**PERSHING LLC**

One Pershing Plaza - 10th Fl.  
 Jersey City NJ 07399  
 Tele #: (201) 413-2000

Approval Date: 3/1/2019

**Membership Activities:**

Order Entry & Clearance  
 International Tele #

SEC #: 8-17574

CRD #: 7560

**RQD\* CLEARING, LLC**

425 South Financial Place - Suite 910B  
Chicago IL 60605  
Tele #: (312) 692-5000

Approval Date: 3/1/2019

SEC #: 8-66826

**Membership Activities:**

CRD #: 134284

Order Entry &amp; Clearance

International Tele #

**SIMPLEX TRADING, LLC**

230 So. LaSalle St., Ste. 4-100  
Chicago IL 60604  
Tele #: (312) 360-2440

Approval Date: 3/1/2019

SEC #: 8-68556

**Membership Activities:**

CRD #: 153585

Order Entry

International Tele #

**SUSQUEHANNA INVESTMENT GROUP**

401 City Avenue, Ste. 220  
Bala Cynwyd PA 19004  
Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-37520

**Membership Activities:**

CRD #: 33875

Lead &amp; Registered Market Maker

International Tele #

**SUSQUEHANNA SECURITIES, LLC**

401 City Avenue, Ste. 220  
Bala Cynwyd PA 19004  
Tele #: (610) 617-2600

Approval Date: 3/1/2019

SEC #: 8-47034

**Membership Activities:**

CRD #: 35874

Primary Lead, Lead &amp; Registered Market Maker

International Tele #

**TWO SIGMA SECURITIES, LLC**

100 Avenue of the Americas - 2nd Fl.  
New York NY 10013  
Tele #: (212) 625-5700

Approval Date: 3/1/2019

SEC #: 8-68090

**Membership Activities:**

CRD #: 148960

Primary Lead, Lead &amp; Registered Market Maker

International Tele #

**UBS SECURITIES LLC**

1285 Avenue of the Americas  
New York NY 10019  
Tele #: (203) 719-3000

Approval Date: 3/1/2019

SEC #: 8-22651

**Membership Activities:**

CRD #: 7654

Order Entry &amp; Clearance

International Tele #

**WELLS FARGO SECURITIES, LLC**

550 South Tryon Street - 6th Floor  
D1086-060  
Charlotte NC 28202  
Tele #: (704) 410-1913

Approval Date: 3/6/2019

SEC #: 8-65876

**Membership Activities:**

CRD #: 126292

Order Entry &amp; Clearance

International Tele #

**WOLVERINE EXECUTION SERVICES, LLC**

175 W. Jackson Blvd., Ste. 200  
Chicago IL 60604  
Tele #: (312) 884-4000

Approval Date: 3/1/2019

SEC #: 8-65336

**Membership Activities:**

CRD #: 120719

Order Entry &amp; Clearance

International Tele #

**WOLVERINE TRADING, LLC**

175 W. Jackson Blvd., Ste. 200  
Chicago IL 60604  
Tele #: (312) 884-4000

Approval Date: 3/1/2019

SEC #: 8-47484

**Membership Activities:**

CRD #: 36848

Primary Lead, Lead &amp; Registered Market Maker

International Tele #

Total BD Firms 36

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
AGILENT TECHNOLOGIES INC.	A	Equity
ALCOA Corporation	AA	Equity
AADI BIOSCIENCE, INC.	AADI	Equity
AMERICAN AIRLINES GROUP INC.	AAL	Equity
Aarons Holdings Company, Inc.	AAN	Equity
APPLIED OPTOELECTRONICS, INC.	AAOI	Equity
AAON INC	AAON	Equity
ADVANCE AUTO PARTS INC.	AAP	Equity
APPLE INC.	AAPL	Equity
American Assets Trust, Inc.	AAT	Equity
iShares MSCI All Country Asia ex Japan ETF	AAXJ	ETF
AllianceBernstein Holding L.P.	AB	Equity
ABBVIE INC.	ABBV	Equity
AMERISOURCEBERGEN, CORP.	ABC	Equity
Ameris Bancorp	ABCB	Equity
ABCELLERA BIOLOGICS, INC.	ABCL	Equity
AMBEV S.A.	ABEV	Equity
ASBURY AUTOMOTIVE GROUP INCCOM	ABG	Equity
ARCA BIOPHARMA, INC.	ABIO	Equity
ABM INDUSTRIES INCORPORATED	ABM	Equity
Airbnb, Inc.	ABNB	Equity
ACUMEN PHARMACEUTICALS, INC.	ABOS	Equity
Arbor Realty Trust, Inc.	ABR	Equity
ABSCI CORPORATION	ABSI	Equity
ABSOLUTE SOFTWARE CORP	ABST	Equity
ABBOTT LABORATORIES	ABT	Equity
Arbutus Biopharma Corporation	ABUS	Equity
ACADIA PHARMACEUTICALS INC.	ACAD	Equity
Aurora Cannabis Inc.	ACB	Equity
ACCOLADE INC	ACCD	Equity
ACCO Brands Corp	ACCO	Equity
ProFrac Holding Corporation	ACDC	Equity
ACCEL ENTERTAINMENT, INC.	ACEL	Equity
ACER THERAPEUTICS INC.	ACER	Equity
ADICET BIO INC	ACET	Equity
ARCH CAPITAL GROUP Ltd	ACGL	Equity
Acadia Healthcare Co Inc	ACHC	Equity
Archer Aviation Inc.	ACHR	Equity
ACHIEVE LIFE SCIENCES, INC.	ACHV	Equity
ALBERTSONS COMPANIES, INC.	ACI	Equity
AC IMMUNE SA	ACIU	Equity
ACI Worldwide, Inc.	ACIW	Equity
Axcelis Technologies Inc.	ACLS	Equity
ARCELLX, INC.	ACLX	Equity
Aecom Technology Corporation	ACM	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
ACM Research, Inc.	ACMR	Equity
ACCENTURE PLC	ACN	Equity
Acorda Therapeutics, Inc.	ACOR	Equity
ACRES Commercial Realty Corp.	ACR	Equity
Ares Commercial Real Estate Corporation	ACRE	Equity
Aclaris Therapeutics, Inc.	ACRS	Equity
AcelRx Pharmaceuticals Inc	ACRX	Equity
ACACIA RESEARCH CORPORATION	ACTG	Equity
ACV AUCTIONS INC	ACVA	Equity
iShares MSCI ACWI Index Fund	ACWI	ETF
iShares MSCI ACWI ex US ETF	ACWX	ETF
Adaptimmune Therapeutics PLC	ADAP	Equity
ADOBE SYSTEMS INC.	ADBE	Equity
ADVANCED EMISSIONS SOLUTIONS, INC.	ADES	Equity
ANALOG DEVICES INC	ADI	Equity
ARCHER DANIELS MIDLAND COMPANY	ADM	Equity
ADMA Biologics Inc	ADMA	Equity
Advent Technologies Holdings, Inc.	ADN	Equity
Adient plc	ADNT	Equity
AUTOMATIC DATA PROCESSING INC	ADP	Equity
Adaptive Biotechnologies Corp	ADPT	Equity
AUTODESK, INC.	ADSK	Equity
ADT Inc.	ADT	Equity
ADTRAN, INC.	ADTN	Equity
Addus HomeCare Corporation	ADUS	Equity
Advantage Solutions Inc.	ADV	Equity
Adverum Biotechnologies, Inc.	ADVVM	Equity
AMEREN CORPORATION	AEE	Equity
AEGON N.V.	AEG	Equity
AEHR TEST SYSTEMS	AEHR	Equity
Advanced Energy Industries, Inc.	AEIS	Equity
AMERICAN EQUITY INVESTMENT LIFE HOLDING COMPANY	AEL	Equity
AGNICO-EAGLE MINES LTD.	AEM	Equity
AETHLON MEDICAL, INC.	AEMD	Equity
AMERICAN EAGLE OUTFITTERS, INC.	AEO	Equity
AMERICAN ELECTRIC POWER COMPANY, INC.	AEP	Equity
AerCap Holdings NV	AER	Equity
AES CORP.	AES	Equity
Aeva Technologies, Inc.	AEVA	Equity
AMERICAN FINANCIAL GROUP	AFG	Equity
ACUTUS MEDICAL INC	AFIB	Equity
AFLAC INC.	AFL	Equity
Affimed N.V.	AFMD	Equity
AFFIRM HOLDINGS, INC.	AFRM	Equity
CSOP FTSE China A50 ETF	AFTY	ETF

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
First Majestic Silver Corp	AG	Equity
AGCO CORPORATION	AGCO	Equity
Agenus Inc.	AGEN	Equity
iShares Core U.S. Aggregate Bond ETF	AGG	ETF
ALAMOS GOLD INC	AGI	Equity
Agios Pharmaceuticals Inc	AGIO	Equity
AGILON HEALTH INC	AGL	Equity
Federal Agricultural Mortgage Corp. (CI C)	AGM	Equity
AGNC Investment Corp.	AGNC	Equity
ASSURED GUARANTY LTD.	AGO	Equity
PROSHARES ULTRA SILVER	AGQ	ETF
AGRIFORCEGROWING SYSTEMS LTD.	AGRI	Equity
AdecoAgro S.A.	AGRO	Equity
PLAYAGS INC	AGS	Equity
Argan Inc	AGX	Equity
ADAPTHEALTH CORP.	AHCO	Equity
Armada Hoffler Properties, Inc.	AHH	Equity
Ashford Hospitality Trust, Inc.	AHT	Equity
C3.ai, Inc.	AI	Equity
AMERICAN INTERNATIONAL GROUP, INC.	AIG	Equity
AAR Corp.	AIR	Equity
APARTMENT INCOME REIT CORP	AIRC	Equity
Airgain Inc	AIRG	Equity
AIRSCULPT TECHNOLOGIES, INC.	AIRS	Equity
Apartment Investment and Management Company	AIV	Equity
Assurant Inc.	AIZ	Equity
ARTHUR J. GALLAGHER & CO.	AJG	Equity
Aerojet Rocketdyne Holdings, Inc.	AJRD	Equity
A.K.A. BRANDS HOLDING CORP.	AKA	Equity
AKAMAI TECHNOLOGIES, INC.	AKAM	Equity
Akebia Therapeutics, Inc.	AKBA	Equity
Akili, Inc.	AKLI	Equity
AKERO THERAPEUTICS, INC.	AKRO	Equity
AKOUSTIS TECHNOLOGIES, INC	AKTS	Equity
Air Lease Corp	AL	Equity
Albemarle Corporation	ALB	Equity
ALCON INC	ALC	Equity
ALDEYRA THERAPEUTICS, INC.	ALDX	Equity
ALECTOR INC.	ALEC	Equity
ALLEGRO MICROSYSTEMS, INC.	ALGM	Equity
ALIGN TECHNOLOGY INC.	ALGN	Equity
Allegiant Travel Company	ALGT	Equity
ALIGNMENT HEALTHCARE INC	ALHC	Equity
Alight, Inc.	ALIT	Equity
ALASKA AIR GROUP INC	ALK	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
ALKERMES PLC	ALKS	Equity
ALKAMI TECHNOLOGY INC	ALKT	Equity
THE ALLSTATE CORPORATION	ALL	Equity
ALLEGION PLC	ALLE	Equity
ALLEGO NV	ALLG	Equity
Allakos Inc	ALLK	Equity
Allogene Therapeutics, Inc.	ALLO	Equity
Allot Communications Ltd	ALLT	Equity
ALLY FINANCIAL INC.	ALLY	Equity
ALNYLAM PHARMACEUTICALS INC	ALNY	Equity
ALPINE IMMUNE SCIENCES, INC.	ALPN	Equity
ALPINE 4 HOLDINGS, INC.	ALPP	Equity
Alarm.Com Holdings, Inc.	ALRM	Equity
Allison Transmission Holdings, Inc.	ALSN	Equity
Altimune, Inc.	ALT	Equity
ALTA EQUIPMENT GROUP INC	ALTG	Equity
Alto Ingredients, Inc.	ALTO	Equity
ALTITUDE ACQUISITION CORP.	ALTU	Equity
Autoliv, Inc	ALV	Equity
ALLOVIR INC	ALVR	Equity
ALX ONCOLOGY HOLDINGS INC	ALXO	Equity
ALZAMEND NEURO, INC.	ALZN	Equity
Antero Midstream Partners LP	AM	Equity
AMBRX BIOPHARMA, INC. SPONSORED ADR	AMAM	Equity
APPLIED MATERIALS, INC.	AMAT	Equity
AMBARELLA, INC.	AMBA	Equity
AMBAC FINANCIAL GROUP, INC.	AMBC	Equity
Ardagh Metal Packaging S.A.	AMBP	Equity
AMC ENTERTAINMENT HOLDINGS, INC.	AMC	Equity
AMCOR PLC	AMCR	Equity
AMC Networks Inc.	AMCX	Equity
ADVANCED MICRO DEVICES, INC.	AMD	Equity
AMETEK, INC.	AME	Equity
AMEDISYS INC	AMED	Equity
APOLLO MEDICAL HOLDINGS, INC.	AMEH	Equity
AFFILIATED MANAGERS GROUP INC	AMG	Equity
AMGEN INC.	AMGN	Equity
American Homes 4 Rent	AMH	Equity
JP Morgan Alerian MLP Index ETN	AMJ	ETF
ASSETMARK FINANCIAL HOLDINGS, INC.	AMK	Equity
AMKOR TECHNOLOGY, INC.	AMKR	Equity
Alerian MLP ETF	AMLMP	ETF
AMYLYX PHARMACEUTICALS, INC.	AMLX	Equity
AMN Healthcare Services, Inc.	AMN	Equity
AMERIPRISE FINANCIAL INC	AMP	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Amphastar Pharmaceuticals, Inc.	AMPH	Equity
AMPLITUDE INC	AMPL	Equity
Altus Power, Inc.	AMPS	Equity
AMPRIUS TECHNOLOGIES INC	AMPX	Equity
Amplify Energy Corporation	AMPY	Equity
Alpha Metallurgical Resources, Inc.	AMR	Equity
Ameresco, Inc.	AMRC	Equity
A-MARK PRECIOUS METALS, INC.	AMRK	Equity
AMARIN CORPORATION PLC	AMRN	Equity
Amyris, Inc.	AMRS	Equity
Amneal Pharmaceuticals, Inc.	AMRX	Equity
AMERICAN SUPERCONDUCTOR CORP	AMSC	Equity
American Software Inc	AMSWA	Equity
AMERICAN TOWER CL A	AMT	Equity
APPLIED MOLECULAR TRANSPORT	AMTI	Equity
AEMETIS, INC.	AMTX	Equity
American Woodmark Corp.	AMWD	Equity
AMERICAN WELL CORP	AMWL	Equity
America Movil S.A.B. de C.V.	AMX	Equity
InfraCap MLP ETF	AMZA	ETF
AMAZON.COM INC.	AMZN	Equity
AUTONATION, INC	AN	Equity
AnaptysBio, Inc.	ANAB	Equity
The Andersons, Inc.	ANDE	Equity
Arista Networks Inc	ANET	Equity
ABERCROMBIE & FITCH COMPANY	ANF	Equity
Angie's List, Inc.	ANGI	Equity
AngioDynamcis, Inc.	ANGO	Equity
ANIKA THERAPEUTICS INC.	ANIK	Equity
ANI Pharmaceuticals, Inc.	ANIP	Equity
ANIXA BIOSCIENCES, INC.	ANIX	Equity
ANNEXON, INC.	ANNX	Equity
ANSYS, Inc.	ANSS	Equity
SPHERE 3D CORP.	ANY	Equity
Aon plc	AON	Equity
Artivion, Inc.	AORT	Equity
A.O. Smith Corporation	AOS	Equity
Alpha & Omega Semiconductor, Ltd.	AOSL	Equity
AMERICAN OUTDOOR BRANDS, INC.	AOUT	Equity
APACHE CORPORATION	APA	Equity
Artisan Partners Asset Management, Inc.	APAM	Equity
AIR PRODUCTS AND CHEMICALS,INC	APD	Equity
APPLIED DNA SCIENCES, INC.	APDN	Equity
American Public Education, Inc.	APEI	Equity
API GROUP CORPORATION	APG	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
APEXIGEN, INC	APGN	Equity
Amphenol Corporation	APH	Equity
AGORA, INC.	API	Equity
Apple Hospitality REIT, Inc.	APLE	Equity
Apellis Pharmaceuticals Inc	APLS	Equity
APPLIED THERAPEUTICS, INC.	APLT	Equity
Apollo Global Management LLC	APO	Equity
Apogee Enterprises, Inc.	APOG	Equity
APPLOVIN CORP	APP	Equity
AppHarvest, Inc.	APPH	Equity
Appian Corporation	APPN	Equity
Digital Turbine, Inc.	APPS	Equity
Blue Apron Holdings, Inc.	APRN	Equity
ALPHA PRO TECH LTD.	APT	Equity
Aptose Biosciences Inc	APTO	Equity
Aptiv PLC	APTV	Equity
Apyx Medical Corporation	APYX	Equity
AQUABOUNTY TECHNOLOGIES, INC	AQB	Equity
Aqua Metals, Inc.	AQMS	Equity
ALGONQUIN POWER & UTILITIES CORP	AQN	Equity
AQUESTIVE THERAPEUTICS, INC.	AQST	Equity
ANTERO RESOURCES CORPORATION	AR	Equity
Aravive, Inc.	ARAV	Equity
Accuray Incorporated	ARAY	Equity
ARBE ROBOTICS LTD	ARBE	Equity
ARGO BLOCKCHAIN PLC	ARBK	Equity
ARC Document Solutions, Inc.	ARC	Equity
ARCBEST CORPORATION	ARCB	Equity
Ares Capital Corporation	ARCC	Equity
ARCO PLATFORM LTD.	ARCE	Equity
Arch Coal, Inc.	ARCH	Equity
ARCOS DORADOS HOLDINGS INC. CLA	ARCO	Equity
Arcturus Therapeutics Holdings Inc.	ARCT	Equity
Ardelyx, Inc.	ARDX	Equity
Alexandria Real Estate Equities, Inc.	ARE	Equity
AMERICAN RESOURCES CORP	AREC	Equity
Ares Management, L.P.	ARES	Equity
argenx SE	ARGX	Equity
ARHAUS, INC.	ARHS	Equity
Apollo Commercial Real Estate Finance, Inc.	ARI	Equity
ARK FINTECH INNOVATION	ARKF	ETF
ARK GENOMIC REVOLUTION ETF	ARKG	ETF
ARK Innovation ETF	ARKK	ETF
ARKO CORP	ARKO	Equity
ARK AUTONOMOUS TECH & ROBOTICS	ARKQ	ETF



MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
ARK Next Generation Internet ETF	ARKW	ETF
ARK SPACE EXPLORATION & INNOVATION ETF	ARKX	ETF
Arlo Technologies, Inc.	ARLO	Equity
ALLIANCE RESOURCE PARTNERS	ARLP	Equity
Aramark	ARMK	Equity
Arconic Inc.	ARNC	Equity
Archrock, Inc.	AROC	Equity
ARQIT QUANTUM INC.	ARQQ	Equity
ARCUTIS BIOTHERAPEUTICS INC	ARQT	Equity
ARMOUR Residential REIT, Inc.	ARR	Equity
ARRY TECHNOLOGIES, INC.	ARRY	Equity
Arrival	ARVL	Equity
Arvinas,inc	ARVN	Equity
ARROW ELECTRONICS INC.	ARW	Equity
ARROWHEAD RESEARCH CORP.	ARWR	Equity
ASA Gold and Precious Metals Limited	ASA	Equity
Asana, Inc.	ASAN	Equity
ASSOCIATED BANC CORP	ASB	Equity
Ardmore Shipping Corporation	ASC	Equity
ASGN Inc.	ASGN	Equity
ASHLAND INC	ASH	Equity
Deutsche X-Trackers Harvest CSI 300 China A Shares ETF	ASHR	ETF
Deutsche X-trackers Harvest CSI 500 China A-Shares Small Cap ETF	ASHS	ETF
AdvanSix Inc.	ASIX	Equity
AERSALE CORPORATION	ASLE	Equity
ASLAN PHARMACEUTICALS LTD. ADR	ASLN	Equity
Assembly Biosciences, Inc.	ASMB	Equity
ASML HOLDING NV	ASML	Equity
Ascendis Pharma A/S	ASND	Equity
ACADEMY SPORTS & OUTDOOR INC	ASO	Equity
ASPEN AEROGELS, INC.	ASPN	Equity
Altisource Portfolio Solutions SA	ASPS	Equity
Assertio Therapeutics, Inc.	ASRT	Equity
ASTEC INDUSTRIES, INC	ASTE	Equity
ALGOMA STEEL GROUP INC.	ASTL	Equity
Astra Space, Inc	ASTR	Equity
AST SpaceMobile, Inc.	ASTS	Equity
Asure Software, Inc.	ASUR	Equity
ASE TECHNOLOGY HOLDING CO., LTD.	ASX	Equity
Asensus Surgical, Inc.	ASXC	Equity
Amtech Systems, Inc.	ASYS	Equity
ATAI LIFE SCIENCES N.V.	ATAI	Equity
ALPHATEC HOLDINGS INC	Atec	Equity
A10 Networks, Inc.	ATEN	Equity
Aterian, Inc.	ATER	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Anterix Inc	ATEX	Equity
Adtalem Global Education Inc.	ATGE	Equity
ATHIRA PHARMA, INC.	ATHA	Equity
Autohome Inc (ADR)	ATHM	Equity
ATHERSYS, INC.	ATHX	Equity
Allegheny Technologies, Inc.	ATI	Equity
ATI Physical Therapy, Inc	ATIP	Equity
Atkore International Group, Inc	ATKR	Equity
Actinium Pharmaceuticals, Inc.	ATNM	Equity
Atmos Energy Corp	ATO	Equity
ATOMERA INCORPORATED	ATOM	Equity
Atossa Therapeutics, Inc.	ATOS	Equity
AptarGroup, Inc.	ATR	Equity
Atara Biotherapeutics, Inc.	ATRA	Equity
AtriCure Inc	ATRC	Equity
ASTRONICS CORPORATION	ATRO	Equity
Air Transport Services Group Inc.	ATSG	Equity
Altice USA, Inc.	ATUS	Equity
ACTIVISION BLIZZARD, INC.	ATVI	Equity
Astria Therapeutics, Inc.	ATXS	Equity
ANGLOGOLD ASHANTI LTD.	AU	Equity
AUDICODES LTD.	AUDC	Equity
Aurinia Pharmaceuticals Inc.	AUPH	Equity
Aurora Innovation, Inc.	AUR	Equity
AUTOLUS THERAPEUTICS PLC	AUTL	Equity
AVEANNA HEALTHCARE HOLDINGS	AVAH	Equity
Aerovironment Inc	AVAV	Equity
AVALONBAY COMMUNITIES INC	AVB	Equity
American Vanguard Corp.	AVD	Equity
Avadel Pharmaceuticals plc	AVDL	Equity
AVANTIS INTERNATIONAL SMALL CAP VALUE ETF	AVDV	ETF
AVIDXCHANGE HOLDINGS INC	AVDX	Equity
Broadcom Inc.	AVGO	Equity
AVID TECHNOLOGY,INC	AVID	Equity
ATE PHARMACEUTICAL INC.	AVIR	Equity
Avanos Medical, Inc.	AVNS	Equity
Avient Corporation	AVNT	Equity
AVIAT NETWORKS INC	AVNW	Equity
AvePoint, Inc	AVPT	Equity
AVROBIO INC	AVRO	Equity
AVNET INC	AVT	Equity
Avantax, Inc.	AVTA	Equity
Avantor, Inc.	AVTR	Equity
Avalo Therapeutics, Inc.	AVTX	Equity
Anavex Life Sciences Corp.	AVXL	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
AVERY DENNISON CORP.	AVY	Equity
ETFMG TRAVEL TECH ETF	AWAY	ETF
Armstrong World Industries, Inc.	AWI	Equity
American Water Works Co., Inc.	AWK	Equity
Aware Inc	AWRE	Equity
Axos Financial, Inc.	AX	Equity
ACCELERATE DIAGNOSTICS, INC.	AXDX	Equity
AxoGen, Inc.	AXGN	Equity
AMERICAN AXLE & MFG. HLDNGS	AXL	Equity
AXCELLA HEALTH, INC.	AXLA	Equity
Axonics Modulation Technologies Inc	AXNX	Equity
Axon Enterprise, Inc	AXON	Equity
AMERICAN EXPRESS COMPANY	AXP	Equity
AXIS CAPITAL HOLDINGS LIMITED	AXS	Equity
Axsome Therapeutics, Inc.	AXSM	Equity
Axalta Coating Systems Ltd.	AXTA	Equity
AXT, Inc.	AXTI	Equity
Atlantica Yield plc	AY	Equity
Acuity Brands, Inc.	AYI	Equity
AYRO, INC.	AYRO	Equity
Alteryx, Inc.	AYX	Equity
AZEK COMPANY INC	AZEK	Equity
ASTRAZENECA	AZN	Equity
AUTOZONE, INC.	AZO	Equity
AZURE POWER GLOBAL LTD.	AZRE	Equity
Azenta, Inc	AZTA	Equity
Azul S.A.	AZUL	Equity
AZZ Incorporated	AZZ	Equity
THE BOEING COMPANY	BA	Equity
ALIBABA GROUP HOLDING LTD	BABA	Equity
BANK OF AMERICA CORPORATION	BAC	Equity
Booz Allen Hamilton Holding Corporation	BAH	Equity
Ball Corporation	BALL	Equity
Bally's Corporation	BALY	Equity
Brookfield Asset Management Inc	BAM	Equity
Banc of California, Inc.	BANC	Equity
BANDWIDTH, INC	BAND	Equity
Credicorp Ltd.	BAP	Equity
The Original BARK Company	BARK	Equity
COUCHBASE, INC.	BASE	Equity
Liberty Media Corporation (Series C) Liberty Brave	BATRK	Equity
BAXTER INTERNATIONAL INC.	BAX	Equity
Blackberry Limited	BB	Equity
BigBear.ai Holdings, Inc.	BBAI	Equity
BBVA Banco Frances S.A	BBAR	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
BANCO BRADESCO S.A.	BBD	Equity
Barings BDC, Inc.	BBDC	Equity
Market Vectors Biotech ETF	BBH	ETF
VINCO VENTURES, INC.	BBIG	Equity
BridgeBio Pharma Inc	BBIO	Equity
Barrett Business Services Inc.	BBSI	Equity
BANCO BILBAO VIZCAYA	BBVA	Equity
Build-A-Bear Workshop, Inc	BBW	Equity
Bath & Body Works, Inc.	BBWI	Equity
BEST BUY COMPANY, INC.	BBY	Equity
BRUNSWICK CORP	BC	Equity
BIOATLA, INC.	BCAB	Equity
Boise Cascade Company	BCC	Equity
BIOCARDIA, INC	BCDA	Equity
BCE INC	BCE	Equity
ATRECA, INC.	BCEL	Equity
Brainstorm Cell Therapeutics Inc.	BCLI	Equity
THE BRINK'S COMPANY	BCO	Equity
Brightcove Inc	BCOV	Equity
Balchem Corporation	BCPC	Equity
BIOCRYST PHARMACEUTICAS INC	BCRX	Equity
BARCLAYS PLC	BCS	Equity
BAIN CAPITAL SPECIALTY FINANCE, INC.	BCSF	Equity
BRIACELL THERAPEUTICS CORP	BCTX	Equity
BICYCLE THERAPEUTICS PLC	BCYC	Equity
Belden Inc.	BDC	Equity
Brandywine Realty Trust	BDN	Equity
BREAKWAVE DRY BULK SHIPPING ETF	BDRY	ETF
Black Diamond Therapeutics, Inc.	BDTX	Equity
BECTON, DICKINSON AND CO	BDX	Equity
Bloom Energy Corporation	BE	Equity
BEAM THERAPEUTICS, INC.	BEAM	Equity
BEACON ROOFING SUPPLY, INC	BECN	Equity
BEAM GLOBAL	BEEM	Equity
E Holdings Inc	BEKE	Equity
FRANKLIN RESOURCES INC.	BEN	Equity
BROOKFIELD RENEWABLE PARTNERS LP	BEP	Equity
BROOKFIELD RENEWABLE CORPORATION	BEPC	Equity
Berry Plastics Group Inc.	BERY	Equity
BEST Inc.	BEST	Equity
Roundhill Sports Betting & iGaming ETF	BETZ	Equity
Bright Horizons Family Solutions Inc	BFAM	Equity
Brown Forman Corporation Cl. B (150 shrs)	BFB	Equity
Bread Financial Holdings, Inc.	BFH	Equity
BURGERFI INTERNATIONAL, INC.	BFI	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Butterfly Network, Inc.	BFLY	Equity
BUNGE LIMITED	BG	Equity
BGC Partners Inc	BGCP	Equity
Big 5 Sporting Goods Corp.	BGFV	Equity
BeiGene, Ltd.	BGNE	Equity
B&G Foods Inc.	BGS	Equity
BRIGHT GREEN CORPORATION	BGXX	Equity
Bausch Health Companies Inc.	BHC	Equity
Brighthouse Financial, Inc.	BHF	Equity
Benson Hill, Inc.	BHIL	Equity
Berkshire Hills Bancorp Inc	BHLB	Equity
BHP BILLITON LIMITED	BHP	Equity
Braemar Hotels & Resorts Inc.	BHR	Equity
BIOHAVEN LTD	BHVN	Equity
PROSHARES ULTRA NASDAQ BIOTECHNOLOGY	BIB	ETF
BAIDU, INC.	BIDU	Equity
BIG LOTS INC.	BIG	Equity
BigCommerce Holdings, Inc.	BIGC	Equity
BIOGEN IDEC INC.	BIIB	Equity
SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	BIL	ETF
Bilibili Inc.	BILI	Equity
Bill.com Holdings Inc	BILL	Equity
Bio-Rad Laboratories, Inc.	BIO	Equity
Biora Therapeutics, Inc.	BIOR	Equity
BIOCERES CROP SOLUTIONS CORP.	BIOX	Equity
Brookfield Infrastructure Partners L.P.	BIP	Equity
BROOKFIELD INFRASTRUCTURE CORPORATION	BIPC	Equity
ALLBIRDS, INC.	BIRD	Equity
PROSHARES ULTRASHORT NASDAQ BIOTECH	BIS	ETF
BITFARMS LTD.	BITF	Equity
PROSHARES SHORT BITCOIN STRATEGY ETF	BITI	ETF
ProShares Bitcoin Strategy ETF	BITO	ETF
BITWISE CRYPTO INDUSTRY INNOVATORS ETF	BITQ	ETF
BIOVIE INC CL A NEW	BIVI	Equity
VanEck BDC Income ETF	BIZD	ETF
BJ's Warehouse Holdings, Inc.	BJ	Equity
BJ S RESTAURANTS INC	BJRI	Equity
THE BANK OF NEW YORK MELLON CORPORATION	BK	Equity
BlackRock Capital Investment Corporation	BKCC	Equity
Brookdale Senior Living Inc	BKD	Equity
The Buckle, Inc.	BKE	Equity
iShares MSCI BRIC ETF	BKF	Equity
BLACK HILLS CORPORATION	BKH	Equity
Black Knight Inc	BKI	Equity
Bakkt Holdings, Inc.	BKKT	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
PowerShares Senior Loan (ETF)	BKLN	ETF
Booking Holdings Inc.	BKNG	Equity
Baker Hughes Company	BKR	Equity
BlackSky Technology Inc	BKSY	Equity
BankUnited, Inc.	BKU	Equity
BIO-KEY INTERNATIONAL, INC.	BKYI	Equity
BlackLine Inc	BL	Equity
Siren Nasdaq NexGen Economy ETF	BLCN	ETF
BAUSCH & LOMB CORP	BLCO	Equity
TopBuild Corp.	BLD	Equity
Blade Air Mobility, Inc.	BLDE	Equity
BALLARD POWER SYSTEMS INC	BLDP	Equity
Builders FirstSource Inc.	BLDR	Equity
BioLife Solutions, Inc	BLFS	Equity
BLACKROCK INC	BLK	Equity
Blackbaud Inc.	BLKB	Equity
Bloomin Brands Inc.	BLMN	Equity
BLEND LABS, INC	BLND	Equity
Blink Charging Co	BLNK	Equity
Amplify Transformational Data Sharing ETF	BLOK	ETF
BIOLINE RX LTD	BLRX	Equity
BELLUS HEALTH INC.	BLU	Equity
bluebird bio Inc	BLUE	Equity
Banco Macro S.A.	BMA	Equity
Bumble Inc.	BMBL	Equity
Biomea Fusion, Inc.	BMEA	Equity
Bank of Montreal	BMO	Equity
Biomerica Inc	BMRA	Equity
BIOMARIN PHARMACEUTICAL INC.	BMRN	Equity
BM TECHNOLOGIES, INC.	BMTX	Equity
BRISTOL-MYERS SQUIBB COMPANY	BMY	Equity
BROOKFIELD CORPORATION	BN	Equity
Vanguard Total Bond Market ETF	BND	ETF
KRANESHARES QUADRATIC DEFLATION ETF	BNDD	ETF
Barnes & Noble Education, Inc.	BNED	Equity
BIONANO GENOMICS, INC.	BNGO	Equity
Broadstone Net Lease, Inc.	BNL	Equity
United States Brent Oil ETF	BNO	ETF
Bank of Nova Scotia	BNS	Equity
BioNTech SE	BNTX	Equity
The Beachbody Company, Inc.	BODY	Equity
Bank of Hawaii Corp.	BOH	Equity
PROSHARES ULTRA DJ-UBS NATURAL GAS	BOIL	ETF
Bok Financial Corporation	BOKF	Equity
DMC Global Inc.	BOOM	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Boot Barn Holdings, Inc.	BOOT	Equity
BORR DRILLING LIMITED	BORR	Equity
Global X Robotics & Artfcl Intlgnr ETF	BOTZ	ETF
BOWLERO CORP.	BOWL	Equity
Box, Inc.	BOX	Equity
BP PLC	BP	Equity
Blueprint Medicines Corporation	BPMC	Equity
Popular Inc. (10 shrs)	BPOP	Equity
BP PRUDHOE BAY ROYALTY TRUST	BPT	Equity
Broadridge Financial Solutions, Inc.	BR	Equity
BRAGG GAMING GROUP INC.	BRAG	Equity
BellRing Brands Inc	BRBR	Equity
BRC Inc.	BRCC	Equity
BIRD GLOBAL, INC.	BRDS	Equity
Market Vectors Brazil Small Cap ETF	BRF	ETF
BRF - Brasil Foods SA	BRFS	Equity
BERKSHIRE HATHAWAY INC.	BRKB	Equity
Brookline Bancorp, Inc.	BRKL	Equity
Bruker Corporation	BRKR	Equity
BRILLIANT EARTH GROUP, INC.	BRLT	Equity
BROWN & BROWN, INC	BRO	Equity
DUTCH BROS INC.	BROS	Equity
BRP GROUP, INC.	BRP	Equity
BrightSpire Capital, Inc.	BRSP	Equity
BRT APARTMENTS CORP	BRT	Equity
Brixmor Property Group Inc	BRX	Equity
Berry Corporation	BRY	Equity
BRAZE, INC.	BRZE	Equity
Direxion Daily Brazil Bull 3X ETF	BRZU	ETF
Banco Santander Brasil SA	BSBR	Equity
Bassett Furniture Industries Inc	BSET	Equity
BioSig Technologies, Inc.	BSGM	Equity
BRIGHTSPHERE INVESTMENT GROUP INC	BSIG	Equity
Black Stone Minerals L.P.	BSM	Equity
BSQUARE Corp.	BSQR	Equity
BOSTON SCIENTIFIC CORPORATION	BSX	Equity
BENTLEY SYSTEMS INCORPORATED	BSY	Equity
BioXcel Therapeutics Inc.	BTAI	Equity
BIT DIGITAL, INC.	BTBT	Equity
BIT Mining Limited	BTCM	Equity
BIOTRICITY, INC.	BTCY	Equity
BAYTEX ENERGY CORP.	BTE	Equity
VALKYRIE BITCOIN STRATEGY ETF	BTF	ETF
B2Gold Corp.	BTG	Equity
British American Tobacco PLC	BTI	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
BETTER THERAPEUTICS INC	BTTX	Equity
Peabody Energy Corporation	BTU	Equity
BRIDGETOWN HOLDINGS LIMITED	BTWN	Equity
Anheuser-Busch InBev	BUD	Equity
GLOBAL X CYBER SECURITY	BUG	ETF
BURFORD CAP LTD	BUR	Equity
Burlington Stores Inc	BURL	Equity
VANECK VECTORS SOCIAL SENTIMENT ETF	BUZZ	ETF
BLUEGREEN VACATIONS HOLDING CORPORATION	BVH	Equity
COMPANIA DE MINAS BUENAVENTURA S.A.-ADR	BVN	Equity
Bioventus Inc.	BVS	Equity
Babcock & Wilcox Enterprises, Inc.	BW	Equity
BORGWARNER INC.	BWA	Equity
BROADWIND, INC.	BWEN	Equity
BWX Technologies, Inc.	BWXT	Equity
THE BLACKSTONE GROUP LP	BX	Equity
BlueLinx Holdings Inc	BXC	Equity
Blackstone Mortgage Trust, Inc.	BXMT	Equity
BOSTON PROPERTIES INC	BXP	Equity
BLACKSTONE SECURED LENDING FUND	BXSL	Equity
BOYD GAMING CORP.	BYD	Equity
Beyond Meat, Inc.	BYND	Equity
BYRNA TECHNOLOGIES INC.	BYRN	Equity
BEYONDSRING INC.	BYSI	Equity
KANZHUN LTD.	BZ	Equity
BUZZFEED, INC	BZFD	Equity
BEAZER HOMES USA INC.	BZH	Equity
ProShares UltraShort MSCI Brazil Capped	BZQ	ETF
Baozun Inc.	BZUN	Equity
CITIGROUP, INC.	C	Equity
China Automotive Systems Inc	CAAS	Equity
CABALETTA BIO, INC.	CABA	Equity
Credit Acceptance Corp.	CACC	Equity
CACI INTERNATIONAL, INC.	CACI	Equity
CAE Inc	CAE	Equity
ConAgra Brands, Inc.	CAG	Equity
CARDINAL HEALTH INC	CAH	Equity
THE CHEESECAKE FACTORY	CAKE	Equity
Caleres, Inc.	CAL	Equity
PACER US SMALL CAP CASH COWS 100 ETF	CALF	ETF
Cal-Maine Foods, Inc.	CALM	Equity
CALLIDITAS THERAPEUTICS AB	CALT	Equity
Calix, Inc.	CALX	Equity
CalAmp Corp	CAMP	Equity
Camtek Ltd.	CAMT	Equity



MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
CANAAN INC. SPONSORED ADR	CAN	Equity
Teucrium Sugar	CANE	ETF
Cano Health, Inc.	CANO	Equity
CROSSAMERICA PARTNERS LP	CAPL	Equity
Capricor Therapeutics, Inc.	CAPR	Equity
Avis Budget Group Inc	CAR	Equity
Cara Therapeutics Inc.	CARA	Equity
CarGurus, Inc.	CARG	Equity
Carrier Global Corporation	CARR	Equity
Cars.com Inc.	CARS	Equity
Casa Systems, Inc.	CASA	Equity
Meta Financial Group, Inc.	CASH	Equity
Casey's General Stores, Inc.	CASY	Equity
CATERPILLAR INC.	CAT	Equity
Chubb Limited	CB	Equity
CBAK ENERGY TECHNOLOGY, INC.	CBAT	Equity
CymaBay Therapeutics, Inc.	CBAY	Equity
Companhia Brasileira de Distribuicao	CBD	Equity
Catalyst Biosciences, Inc.	CBIO	Equity
CBL & ASSOCIATES PROPERTIES, INC.	CBL	Equity
CBOE HOLDINGS, INC.	CBOE	Equity
CBRE Group, Inc.	CBRE	Equity
Cracker Barrel Old Country Store	CBRL	Equity
CABOT CORPORATION	CBT	Equity
The Chemours Company	CC	Equity
C4 THERAPEUTICS, INC.	CCCC	Equity
CCC Intelligent Solutions Holdings Inc.	CCCS	Equity
Coca-Cola European Partners plc	CCEP	Equity
CROWN CASTLE INTER.	CCI	Equity
CAMECO CORPORATION	CCJ	Equity
CROWN HOLDINGS INC.	CCK	Equity
CARNIVAL CORPORATION	CCL	Equity
CSI Compressco LP	CCLP	Equity
Clear Channel Outdoor HLD Inc CL. A	CCO	Equity
Cogent Communications Holdings, Inc.	CCOI	Equity
Cross Country Healthcare, Inc.	CCRN	Equity
Century Communities, Inc.	CCS	Equity
CHURCHILL CAPITAL CORP. V	CCV	Equity
CHINDATA GROUP HOLDINGS LIMITED	CD	Equity
Ceridian HCM Holding Inc	CDAY	Equity
COEUR d' ALENE MINES CORP	CDE	Equity
Cardlytics Inc	CDLX	Equity
Avid Bioservices, Inc.	CDMO	Equity
CareDx, Inc	CDNA	Equity
CADENCE DESIGN SYSTEMS, I	CDNS	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
CIDARA THERAPEUTICS, INC.	CDTX	Equity
CDW CORPORATION	CDW	Equity
ChromaDex Corporation	CDXC	Equity
Codexis Inc.	CDXS	Equity
Cadiz Inc.	CDZI	Equity
CELANESE CORPORATION	CE	Equity
CECO Environmental Corporation	CECO	Equity
CONSTELLATION ENERGY CORPORATION	CEG	Equity
CAMBER ENERGY, INC.	CEI	Equity
CONSOL Energy Inc	CEIX	Equity
Celsius Holdings, Inc.	CELH	Equity
PhenomeX Inc.	CELL	Equity
Celularity Inc.	CELU	Equity
Cenntro Electric Group Limited	CENN	Equity
CENTURY ALUMINUM COMPANY	CENX	Equity
CRESTWOOD EQUITY PARTNERS LP	CEQP	Equity
CEREVEL THERAPEUTICS HOLDINGS, INC	CERE	Equity
CERUS CORPORATION	CERS	Equity
CERTARA, INC.	CERT	Equity
Ceva Inc	CEVA	Equity
CF INDUSTRIES HOLDINGS, INC.	CF	Equity
Capitol Federal Financial	CFFN	Equity
Citizens Financial Group, Inc.	CFG	Equity
CONFLUENT, INC.	CFLT	Equity
CULLEN/FROST BANKERS INC.	CFR	Equity
The Carlyle Group LP	CG	Equity
CHINA GREEN AGRICULTURE, INC.	CGA	Equity
CENTERRA GOLD INC.	CGAU	Equity
Canopy Growth Corporation	CGC	Equity
CULLINAN ONCOLOGY, INC.	CGEM	Equity
Compugen Ltd.	CGEN	Equity
COGNYTE SOFTWARE LTD	CGNT	Equity
COGNEX CORPORATION	CGNX	Equity
Capstone Green Energy Corporation	CGRN	Equity
Direxion Dly CSI 300 Chn A Shr Br 2X ETF	CHAU	ETF
CHURCH & DWIGHT CO.	CHD	Equity
Churchill Downs, Inc.	CHDN	Equity
Chemed Corporation	CHE	Equity
Chefs' Warehouse Inc/The	CHEF	Equity
CHEGG, INC	CHGG	Equity
Choice Hotels International Inc.	CHH	Equity
Global X MSCI China Consumer Discretionary ETF	CHIQ	Equity
Global X China Financials ETF	CHIX	ETF
CHESAPEAKE ENERGY CORPORATION	CHK	Equity
CHECK POINT SOFTWARE TECHNOLOGIES LTD.	CHKP	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
ChargePoint Holdings, Inc.	CHPT	Equity
Chord Energy Corporation	CHRD	Equity
Coherus BioSciences, Inc.	CHRS	Equity
CH ROBINSON WORLDWIDE INC.	CHRW	Equity
CHICO'S FAS, INC.	CHS	Equity
Charter Communications Inc. Cl A	CHTR	Equity
CHUY'S HOLDINGS, INC.	CHUY	Equity
Chewy, Inc.	CHWY	Equity
ChampionX Corporation	CHX	Equity
CIGNA CORPORATION	CI	Equity
Citizens Inc.	CIA	Equity
First Trust NASDAQ Cybersecurity ETF	CIBR	ETF
CIENA CORPORATION	CIEN	Equity
Cipher Mining Inc.	CIFR	Equity
Companhia Energetica de Minas Gerais - CEMIG (125)	CIG	Equity
CHIMERA INVESTMENT CORPORATION	CIM	Equity
Cincinnati Financial Corp.	CINF	Equity
City Office REIT, Inc.	CIO	Equity
CIRCOR International, Inc.	CIR	Equity
CERBERUS CYBER SENTINEL CORP	CISO	Equity
Civista BancShares Inc	CIVB	Equity
Civitas Resources, Inc	CIVI	Equity
CHECKPOINT THERAPEUTICS, INC.	CKPT	Equity
COLGATE-PALMOLIVE COMPANY	CL	Equity
Clarus Corporation	CLAR	Equity
Core Laboratories N.V.	CLB	Equity
Cellebrite DI Ltd.	CLBT	Equity
Chatham Lodging Trust	CLDT	Equity
Celldex Therapeutics, Inc.	CLDX	Equity
CLIFFS NATURAL RESOURCES INC.	CLF	Equity
Clearfield, Inc.	CLFD	Equity
CLEAN HARBORS INC	CLH	Equity
ClearSign Combustion Corporation	CLIR	Equity
Collectis S.A.	CLLS	Equity
Calumet Specialty Products Partners, L.P.	CLMT	Equity
CLEAN ENERGY FUELS CORPORATION	CLNE	Equity
CLENE INC	CLNN	Equity
Global X Cloud Computing ETF Global X Cloud Computing ETF	CLOU	ETF
Clover Health Investments, Corporation	CLOV	Equity
CLIPPER REALTY, INC.	CLPR	Equity
CLEARPOINT NEURO INC	CLPT	Equity
Celestica, Inc.	CLS	Equity
Clearside Biomedical, Inc.	CLSD	Equity
CleanSpark, Inc.	CLSK	Equity
Clever Leaves Holdings Inc.	CLVR	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Clarivate Plc	CLVT	Equity
Clearwater Paper Corporation	CLW	Equity
CLOROX CO	CLX	Equity
Canadian Imperial Bank of Commerce	CM	Equity
COMERICA, INC.	CMA	Equity
CAREMAX, INC.	CMAX	Equity
CAMBIUM NETWORKS CORPORATION	CMBM	Equity
COMMERCIAL METALS COMPANY	CMC	Equity
Cheetah Mobile Inc.	CMCM	Equity
COMCAST CORPORATION	CMCSA	Equity
CME GROUP INC.	CME	Equity
CHIPOTLE MEXICAN GRILL, INC.	CMG	Equity
CUMMINS INC.	CMI	Equity
Compass Minerals International, Inc.	CMP	Equity
CIMPRESS N.V.	CMPR	Equity
COMPASS PATHWAYS PLC	CMPS	Equity
Costamare Inc.	CMRE	Equity
CHIMERIX, INC.	CMRX	Equity
CMS ENERGY CORPORATION	CMS	Equity
COMTECH TELECOMMUNICATION	CMTL	Equity
CENTENE CORP	CNC	Equity
Conduent Incorporated	CNDT	Equity
CNH Industrial N.V.	CNHI	Equity
CANADIAN NATIONAL RAILWAY	CNI	Equity
Cinemark Holdings, Inc.	CNK	Equity
CORE & MAIN INC	CNM	Equity
CONMED CORP.	CNMD	Equity
Cannae Holdings, Inc.	CNNE	Equity
CNO Financial Group, Inc.	CNO	Equity
CENTERPOINT ENERGY, INC.	CNP	Equity
CANADIAN NATURAL RESOURCES LIMITED	CNQ	Equity
Consolidated Communications Holdings, Inc.	CNSL	Equity
CONNECT BIOPHARMA HOLDINGS LIMITED	CNTB	Equity
Century Casinos, Inc.	CNTY	Equity
CNX Resources Corporation	CNX	Equity
CONCENTRIX CORPORATION	CNXC	Equity
iShare MSCI China A ETF	CNYA	ETF
VITA COCO COMPANY, INC.	COCO	Equity
Compass Diversified Holdings LLC	CODI	Equity
Co-Diagnostics, Inc.	CODX	Equity
CAPITAL ONE FINANCIAL CORPORATION	COF	Equity
COGENT BIOSCIENCES, INC.	COGT	Equity
Coherent Corporation	COHR	Equity
Cohu, Inc.	COHU	Equity
Coinbase Global, Inc.	COIN	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Columbia Banking System, Inc.	COLB	Equity
Americold Realty Trust	COLD	Equity
Collegium Pharmaceutical, Inc.	COLL	Equity
COLUMBIA SPORTWEAR CO.	COLM	Equity
COMMSCOPE HOLDING CO, INC.	COMM	Equity
COMPASS INC	COMP	Equity
Conn's, Inc.	CONN	Equity
CONX CORP.	CONX	Equity
Cooper Companies, Inc.	COO	Equity
TRAEGER, INC.	COOK	Equity
Mr. Cooper Group Inc.	COOP	Equity
CONOCOPHILLIPS	COP	Equity
GLOBAL X COPPER MINERS ETF	COPX	ETF
TEUCRIUM COMMODITY TRUST CORN FUND SHARES ETF	CORN	ETF
CorEnergy Infrastructure Trust, Inc.	CORR	Equity
Corcept Therapeutics Incorporated	CORT	Equity
COSTCO WHOLESALE CORPORATION	COST	Equity
COTY INC.	COTY	Equity
COURSERA, INC.	COUR	Equity
Canadian Pacific Railway Limited	CP	Equity
Copa Holdings SA	CPA	Equity
CAMPBELL SOUP CO	CPB	Equity
CALLON PETROLEUM COMPANY	CPE	Equity
UNITED STATES COPPER INDEX FUND	CPER	ETF
Crescent Point Energy Corp.	CPG	Equity
Capital Product Partners LP	CPLP	Equity
COUPANG INC	CPNG	Equity
Capri Holdings Limited (	CPRI	Equity
COPART INC	CPRT	Equity
CATALYST PHARMACEUTICAL PARTNES INC.	CPRX	Equity
Cooper-Standard Holdings Inc.	CPS	Equity
CPS TECHNOLOGIES CORPORATION	CPSH	Equity
Consumer Portfolio Services, Inc.	CPSS	Equity
Camden Property Trust	CPT	Equity
COMPUTE HEALTH ACQUISITION CORP.	CPUH	Equity
Cheniere Energy Ptnrs L.P.	CQP	Equity
Crane Co.	CR	Equity
CRA International, Inc	CRAI	Equity
CARIBOU BIOSCIENCES, INC.	CRBU	Equity
CALIFORNIA RESOURCES CORP	CRC	Equity
CRICUT, INC.	CRCT	Equity
Cardiff Oncology, Inc.	CRDF	Equity
CARDIOL THERAPEUTICS INC.	CRDL	Equity
CREDO TECHNOLOGY GROUP HOLDING LTD.	CRDO	Equity
Cresud Sociedad Anonima Comercial, Inmobiliaria, Financiera y Agropecuaria	CRESY	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
CHARGE ENTERPRISES, INC.	CRGE	Equity
CRESCENT ENERGY COMPANY	CRGY	Equity
CRH plc	CRH	Equity
CARTER'S , INC.	CRI	Equity
Curis Inc	CRIS	Equity
COMSTOCK RESOURCES INC.	CRK	Equity
Charles River Laboratories International, Inc.	CRL	Equity
SALESFORCE.COM, INC	CRM	Equity
CorMedix Inc.	CRMD	Equity
Cerence Inc.	CRNC	Equity
Ceragon Networks Ltd.	CRNT	Equity
CRINETICS PHARMACEUTICALS INC	CRNX	Equity
Cronos Group Inc.	CRON	Equity
CROCS, INC.	CROX	Equity
CARPENTER TECHNOLOGY CORP.	CRS	Equity
CRISPR Therapeutics AG	CRSP	Equity
CORSAIR GAMING, INC.	CRSR	Equity
CRITEO SA	CRTO	Equity
CIRRUS LOGIC INC.	CRUS	Equity
Corvus Pharmaceuticals, Inc.	CRVS	Equity
CrowdStrike Holdings, Inc.	CRWD	Equity
CREDIT SUISSE GROUP AG	CS	Equity
CHAMPIONS ONCOLOGY, INC.	CSBR	Equity
CISCO SYSTEMS, INC.	CSCO	Equity
LoopNet, Inc. (Merger)	CSGP	Equity
CSG Systems International Inc.	CSGS	Equity
Canadian Solar Inc	CSIQ	Equity
Carlisle Companies Incorporated	CSL	Equity
Centerspace	CSR	Equity
CHICKEN SOUP FOR THE SOUL	CSSE	Equity
CAESARSTONE SDOT-YAM LTD.	CSTE	Equity
CASTLE BIOSCIENCES, INC.	CSTL	Equity
CONSTELLIUM N.V	CSTM	Equity
Carriage Services, Inc.	CSV	Equity
Capital Southwest Corp	CSWC	Equity
CSX CORPORATION	CSX	Equity
CINTAS CORP.	CTAS	Equity
Computer Task Group Incorporated	CTG	Equity
Cell Therapeutics, Inc. (20 Shrs)	CTIC	Equity
CYTEK BIOSCIENCES, INC.	CTKB	Equity
Cantaloupe, Inc.	CTLP	Equity
Catalent, Inc.	CTLT	Equity
CytomX Therapeutics, Inc.	CTMX	Equity
Custom Truck One Source, Inc.	CTOS	Equity
Coterra Energy Inc.	CTRA	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
CASTOR MARITIME, INC.	CTRM	Equity
Citi Trends, Inc.	CTRN	Equity
CTS Corporation	CTS	Equity
COGNIZANT TECHNOLOGY SOLUTIONS CORPORATION	CTSH	Equity
CYTOSORBENTS CORPORATION	CTSO	Equity
Corteva, Inc.	CTVA	Equity
CITIUS PHARMACEUTICALS INC	CTXR	Equity
CubeSmart	CUBE	Equity
Customers Bancorp, Inc Common Stock	CUBI	Equity
CUE BIOPHARMA INC	CUE	Equity
Carnival Corporation & Plc	CUK	Equity
Culp, Inc.	CULP	Equity
Direxion Daily Healthcare Bull 3X ETF	CURE	ETF
CURIOSITYSTREAM INC	CURI	Equity
CURO Group Holdings Corp.	CURO	Equity
TORRID HOLDINGS INC.	CURV	Equity
CUTERA INC	CUTR	Equity
Cousins Properties Inc.	CUZ	Equity
CUREVAC N.V.	CVAC	Equity
CVB Financial Corp.	CVBF	Equity
Cenovus Energy Inc.	CVE	Equity
CIVEO CORPORATION	CVEO	Equity
Commercial Vehicle Group, Inc.	CVGI	Equity
CALAVO GROWERS INC.	CVGW	Equity
CVR Energy, Inc.	CVI	Equity
Covenant Logistics Group, Inc.	CVLG	Equity
Commvault Systems Inc	CVLT	Equity
CEL-SCI Corporation	CVM	Equity
Carvana Co.	CVNA	Equity
CVRX, INC.	CVRX	Equity
CVS CAREMARK CORPORATION	CVS	Equity
CHEVRON CORPORATION	CVX	Equity
SPDR Barclays Convertible Secs ETF	CWB	ETF
Direxion Shares ETF Trust - Direxion Daily CSI China Internet Index Bull 2X Shares	CWEB	ETF
Clearway Energy, Inc.	CWEN	Equity
Clearway Energy, Inc. Class A	CWENA	Equity
Camping World Holdings, Inc.	CWH	Equity
Cushman Wakefield Plc	CWK	Equity
Casella Waste Systems Inc.	CWST	Equity
CEMEX, S.A.B. DE C.V.	CX	Equity
SPRINKLR, INC.	CXM	Equity
Crane NXT, Co.	CXT	Equity
CORRECTIONS CORPORATION OF AMERICA	CXW	Equity
WisdomTree Chinese Yuan Strategy ETF	CYB	ETF
CYBERARK SOFTWARE, LTD.	CYBR	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
CYCLACEL PHARMACEUTICALS, INC.	CYCC	Equity
China Yuchai International Limited	CYD	Equity
COMMUNITY HEALTH SYSTEMS, INC.	CYH	Equity
CryoPort, Inc	CYRX	Equity
CYTOKINETICS, INCORPORATED	CYTK	Equity
Cyxtera Technologies, Inc.	CYXT	Equity
Cazoo Group Ltd	CZOO	Equity
Caesars Entertainment Corporation	CZR	Equity
DOMINION RESOURCES	D	Equity
DANAOS CORPORATION	DAC	Equity
DADA NEXUS LTD.	DADA	Equity
DAKTRONICS INC.	DAKT	Equity
DELTA AIR LINES INC.	DAL	Equity
Dana Holding Corporation	DAN	Equity
YOUDAO INC	DAO	Equity
Darling International, Inc.	DAR	Equity
DoorDash, Inc.	DASH	Equity
ENDAVA PLC	DAVA	Equity
DAY ONE BIOPHARMACEUTICALS, INC.	DAWN	Equity
DEUTSCHE BANK AG	DB	Equity
POWERSHARES DB AGRICULTURE	DBA	ETF
PowerShares DB Base Metals ETF	DBB	ETF
PoweShares DB Commodity Index Tracking Fund	DBC	ETF
Designer Brands Inc. (	DBI	Equity
PowerShares DB Oil Fund	DBO	ETF
DigitalBridge Group, Inc.	DBRG	Equity
DECIBEL THERAPEUTICS INC	DBTX	Equity
DBV Technologies S.A.	DBVT	Equity
Dropbox, Inc.	DBX	Equity
TRITIUM LTD	DCFC	Equity
DOCGO INC	DCGO	Equity
Donaldson Company, Inc.	DCI	Equity
Deciphera Pharmaceuticals, Inc.	DCPH	Equity
DuPont de Nemours, Inc.	DD	Equity
3D SYSTEMS CORPORATION	DDD	Equity
ProShares Ultra Dow30	DDM	ETF
Datadog Inc	DDOG	Equity
DEERE & COMPANY	DE	Equity
Easterly Government Properties, Inc.	DEA	Equity
DECKERS OUTDOOR CORPORATION	DECK	Equity
Douglas Emmett Inc	DEI	Equity
Dell Technologies, Inc.	DELL	Equity
WisdomTree Emerging Markets Eq Inc ETF	DEM	ETF
DENBURY INC.	DEN	Equity
Denny's Corp.	DENN	Equity



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
DIAGEO PLC	DEO	Equity
Despegar.com, Corp.	DESP	Equity
WisdomTree Europe SmallCap Dividend Fund	DFE	ETF
Direxion Daily Aerospace & Defense Bull 3X Shares Direxion Daily Aerospace	DFEN	ETF
Donnelley Financial Solutions, Inc.	DFIN	Equity
DRAGONFLY ENERGY HOLDINGS CORP	DFLI	Equity
DISCOVER FINANCIAL SERVICES	DFS	Equity
DOLLAR GENERAL CORPORATION	DG	Equity
Digi International Inc	DGII	Equity
iShares Core Dividend Growth ETF	DGRO	Equity
WisdomTree Emerging Markets SmallCap Dividend Fund	DGS	ETF
QUEST DIAGNOSTICS INC	DGX	Equity
DEFINITIVE HEALTHCARE CORP.	DH	Equity
Diversified Healthcare Trust (	DHC	Equity
DR HORTON INC.	DHI	Equity
DANAHER CORPORATION	DHR	Equity
DHT Holdings, Inc.	DHT	Equity
DHI Group, Inc.	DHX	Equity
SPDR DOW JONES INDUSTRIAL AVERAGE	DIA	ETF
1STDIBS.COM, INC.	DIBS	Equity
DICE THERAPEUTICS, INC.	DICE	Equity
ProShares Ultra Oil & Gas	DIG	ETF
DineEquity, Inc	DIN	Equity
HF Sinclair Corporation	DINO	Equity
Diodes Incorporated	DIOD	Equity
THE WALT DISNEY COMPANY	DIS	Equity
DISH NETWORK CORPORATION	DISH	Equity
AMPLIFY CWP ENHANCED DIVIDEND INCOME ETF	DIVO	ETF
iPath DJ-UBS Commodity Indx Tot Ret ETN	DJP	ETF
Delek US Holdings, Inc.	DK	Equity
Delek Logistics Partners LP	DKL	Equity
DraftKings Inc.	DKNG	Equity
DICK'S SPORTING GOODS INC.	DKS	Equity
DOLBY LABORATORIES, INC.	DLB	Equity
DLH HOLDINGS CORP.	DLHC	Equity
Dynagas LNG Partners LP	DLNG	Equity
DLOCAL, LTD	DLO	Equity
DOLPHIN ENTERTAINMENT INC	DLPN	Equity
Digital Realty Trust Inc	DLR	Equity
Duluth Holdings Inc.	DLTH	Equity
DOLLAR TREE, INC.	DLTR	Equity
DELUXE CORPORATION	DLX	Equity
Desktop Metal, Inc.	DM	Equity
DIAMEDICA THERAPEUTICS INC.	DMAC	Equity
Dorchester Minerals LP	DMLP	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Digimarc Corporation	DMRC	Equity
DERMTECH, INC.	DMTK	Equity
Ginkgo Bioworks Holdings, Inc. (	DNA	Equity
Dun & Bradstreet Holdings, Inc.	DNB	Equity
Denali Therapeutics Inc	DNLI	Equity
DANIMER SCIENTIFIC INC	DNMR	Equity
Denison Mines Corp.	DNN	Equity
NOW, INC.	DNOW	Equity
KRISPY KREME, INC	DNUT	Equity
DIAMOND OFFSHORE DRILLING INC	DO	Equity
Physicians Realty Trust	DOC	Equity
DIGITALOCEAN HOLDINGS, INC.	DOCN	Equity
DOXIMITY, INC	DOCS	Equity
DocuSign Inc.	DOCU	Equity
ProShares Short Dow30	DOG	ETF
DOGNESS INTERNATIONAL CORPORATION	DOGZ	Equity
DOLE PLS	DOLE	Equity
Doma Holdings, Inc.	DOMA	Equity
Domo, Inc.	DOMO	Equity
BRP, INC.	DOOO	Equity
Masonite International Corporation	DOOR	Equity
DOUGLAS ELLIMAN INC.	DOUG	Equity
DOVER CORPORATION	DOV	Equity
Dow Inc.	DOW	Equity
AMDOCS LTD	DOX	Equity
Douyu International Holdings Ltd	DOYU	Equity
DRAGANFLY INC	DPRO	Equity
Direxion Shares ETF Trust - Direxion Daily Regional Banks Bull 3X Shares	DPST	ETF
DOMINO'S PIZZA INC	DPZ	Equity
Daqo New Energy Corp	DQ	Equity
DRDGOLD Ltd.	DRD	Equity
DARDEN RESTAURANTS, INC.	DRI	Equity
DARIOHEALTH CORP	DRIO	Equity
Direxion Dly S&P Oil&Gs Ex&Prd Br 3X ETF	DRIP	ETF
GLOBAL X AUTONOMOUS & ELECTRIC VEHICLES ETF	DRIV	ETF
Direxion Daily Real Estate Bull 3x ETF	DRN	ETF
DRIL-QUIP INC	DRQ	Equity
DURECT Corporation	DRRX	Equity
Leonardo DRS, Inc.	DRS	Equity
Direxion Daily Real Estate Bear 3x ETF	DRV	ETF
DRIVEN BRANDS HOLDINGS INC	DRVN	Equity
DIVERSEY HOLDINGS LTD	DSEY	Equity
DESIGN THERAPEUTICS, INC.	DSGN	Equity
DESCARTES SYSTEM GROUP INC	DSGX	Equity
Daseke, Inc.	DSKE	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
DoubleLine Income Solutions Fund	DSL	Equity
VIAANT TECHNOLOGY, INC.	DSP	Equity
DIANA SHIPPING INC	DSX	Equity
Dynatrace Inc	DT	Equity
SOLO BRANDS, INC.	DTC	Equity
DTE Energy Company	DTE	Equity
Precision BioSciences Inc	DTIL	Equity
DT Midstream, Inc.	DTM	Equity
ProShares UltraShort Oil & Gas	DUG	ETF
DUKE ENERGY CORPORATION	DUK	Equity
DUOLINGO, INC.	DUOL	Equity
Direxion Daily Gold Miners Bear 3X Shares	DUST	ETF
DOUBLEVERIFY HOLDINGS INC	DV	Equity
DaVita HealthCare Partners Inc.	DVA	Equity
DYNAVAX TECHNOLOGIES CORPORATION	DVAX	Equity
DEVON ENERGY CORPORATION	DVN	Equity
ISHARES DJ SELECT DIVIDEND	DVY	ETF
Digital World Acquisition Corp.	DWAC	Equity
Dynex Capital, Inc.	DX	Equity
DXC Technology Company	DXC	Equity
DexCom, Inc.	DXCM	Equity
ProShares UltraShort Dow30 (25 Shares)	DXD	ETF
WISDOMTREE JAPAN HEDGED EQUITY FUND	DXJ	ETF
DESTINATION XL GROUP, INC.	DXLG	Equity
DXP Enterprises, Inc.	DXPE	Equity
Dixie Group Inc.	DXYN	Equity
DYCOM INDUSTRIES INC.	DY	Equity
DYADIC INTERNATIONAL, INC.	DYAI	Equity
DZS INC.	DZSI	Equity
ENI SpA	E	Equity
ELECTRONIC ARTS INC.	EA	Equity
GrafTech International Ltd.	EAF	Equity
BRINKER INT'L, INC.	EAT	Equity
Eventbrite, Inc.	EB	Equity
EBAY INC.	EBAY	Equity
EASTERN BANKSHARES, INC.	EBC	Equity
ESPORTS TECHNOLOGIES INC	EBET	Equity
Ebix, Inc.	EBIX	Equity
Emergent Biosolutions, Inc.	EBS	Equity
Ecopetrol SA	EC	Equity
iShares MSCI Chile ETF	ECH	ETF
ECOLAB INC.	ECL	Equity
iShares MSCI China Small-Cap ETF	ECNS	ETF
Encore Capital Group Inc	ECPG	Equity
Ecovyst Inc.	ECVT	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
CON EDISON	ED	Equity
EDAP TMS S.A.	EDAP	Equity
Direxion Daily Emerging Markets Bull 3X Shares (20	EDC	ETF
Editas Medicine, Inc.	EDIT	Equity
ENDEAVOR GROUP HOLDINGS, INC.	EDR	Equity
NEW ORIENTAL EDUCATION & TECHNOLOGY GROUP	EDU	Equity
VANGUARD EXTENDED DURATION TREASURY ETF	EDV	ETF
Direxion Daily Emerging Markets Bear 3X Share	EDZ	ETF
EXCELERATE ENERGY, INC.	EE	Equity
EURONET WORLDWIDE, INC.	EEFT	Equity
ISHARES MSCI EMERGING MARKETS INDEX	EEM	ETF
iShares MSCI Emerging Markets Min Vol Factor ETF	EEMV	ETF
ProShares UltraShort MSCI Emerging Mkts	EEV	ETF
ISHARES MSCI EAFE INDEX	EFA	ETF
iShares Edge MSCI Min Vol EAFE	EFAV	ETF
Ellington Financial LLC	EFC	Equity
Enterprise Financial Services Corp	EFSC	Equity
EQUIFAX INC.	EFX	Equity
Egain Communications Corp.	EGAN	Equity
Eagle Bancorp Inc	EGBN	Equity
8x8 Inc	EGHT	Equity
Edgio, Inc	EGIO	Equity
EAGLE BULK SHIPPING INC	EGLE	Equity
ENTHUSIAST GAMING HOLDINGS INC	EGLX	Equity
ELDORADO GOLD CORPORATION	EGO	Equity
Eagle Pharmaceuticals Inc.	EGRX	Equity
VAALCO ENERGY INC	EGY	Equity
EHANG HOLDINGS LTD. SPONSORED ADR	EH	Equity
Enhabit, Inc.	EHAB	Equity
Encompass Health Corporation	EHC	Equity
eHealth, Inc.	EHTH	Equity
Eiger BioPharmaceuticals, Inc.	EIGR	Equity
EDISON INTERNATIONAL	EIX	Equity
EKSO BIONICS HOLDINGS, INC.	EKSO	Equity
THE EST	EL	Equity
Elanco Animal Health Incorporated	ELAN	Equity
ELEDON PHARMACEUTICALS, INC.	ELDN	Equity
e.l.f. Beauty, Inc.	ELF	Equity
Elme Communities	ELME	Equity
Equity Lifestyle Properties, Inc.	ELS	Equity
Elevance Health, Inc	ELV	Equity
ELYS GAME TECHNOLOGY, CORP.	ELYS	Equity
iShares J.P. Morgan USD Emerging Markets Bond ETF	EMB	ETF
EMBARK TECHNOLOGY, INC	EMBK	Equity
EMCORE Corporation	EMKR	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
VanEck Vectors J.P. Morgan EM Local Currency Bond ETF	EMLC	ETF
EASTMAN CHEMICAL COMPANY	EMN	Equity
EMERSON ELECTRIC COMPANY	EMR	Equity
Enbridge Inc	ENB	Equity
ENFUSION, INC.	ENFN	Equity
ENGLOBAL CORPORATION	ENG	Equity
EnLink Midstream, LLC	ENLC	Equity
ENLIVEX THERAPEUTICS LTD.	ENLV	Equity
ENOCHIAN BIOSCIENCES INC.	ENOB	Equity
Enovis Corporation	ENOV	Equity
Enphase Energy Inc.	ENPH	Equity
Energizer Holdings, Inc.	ENR	Equity
Enersys	ENS	Equity
ENSERVCO CORPORATION	ENSV	Equity
Enanta Pharmaceuticals, Inc.	ENTA	Equity
Entegris, Inc.	ENTG	Equity
ENTERA BIO LTD.	ENTX	Equity
Investnet, Inc.	ENV	Equity
Enova International, Inc.	ENVA	Equity
Enovix Corporation	ENVX	Equity
ENZO BIOCHEM INC.	ENZ	Equity
EOG RESOURCES, INC.	EOG	Equity
Evolus, Inc.	EOLS	Equity
Eos Energy Enterprises, Inc.	EOSE	Equity
Actuant Corporation	EPAC	Equity
EPAM Systems, Inc.	EPAM	Equity
Edgewell Personal Care Company	EPC	Equity
ENTERPRISE PRODUCTS PARTNERS L.P.	EPD	Equity
WisdomTree India Earning Fund	EPI	ETF
ESSA PHARMA INC	EPIX	Equity
Evolution Petroleum Corporation	EPM	Equity
iShares MSCI Pacific ex Japan ETF	EPP	Equity
EPR Properties	EPR	Equity
Essential Properties Realty Trust Inc	EPRT	Equity
ProShares UltraShort FTSE Europe	EPV	ETF
EQUITY COMMONWEALTH	EQC	Equity
AXA Equitable Holdings, Inc.	EQH	Equity
EQUINIX, INC.	EQIX	Equity
Equinor ASA	EQNR	Equity
EQUITY RESIDENTIAL	EQR	Equity
EQRx, Inc.	EQRX	Equity
EQT Corporation	EQT	Equity
Equinox Gold Corp.	EQX	Equity
ERASCA, INC.	ERAS	Equity
Enerplus Corporation	ERF	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Ericsson	ERIC	Equity
Energy Recovery Inc.	ERII	Equity
Embraer S.A.	ERJ	Equity
ERO COPPER CORP.	ERO	Equity
DIREXION DAILY ENERGY BULL 3X SHARES	ERX	ETF
Direxionshares Daily Energy Bear 3X Shares	ERY	ETF
ERYTECH PHARMA SA	ERYP	Equity
Eversource Energy	ES	Equity
Escalade, Incorporated	ESCA	Equity
Element Solutions Inc.	ESI	Equity
ENGAGESMART INC	ESMT	Equity
Essent Group Ltd.	ESNT	Equity
Esperion Therapeutics, Inc.	ESPR	Equity
Empire State Realty Trust, Inc.	ESRT	Equity
Essex Property Trust Inc.	ESS	Equity
ESTABLISHMENT LABS HOLDINGS, INC.	ESTA	Equity
Elastic N.V.	ESTC	Equity
EARTHSTONE ENERGY, INC.	ESTE	Equity
Energy Transfer LP	ET	Equity
Ethan Allen Interiors Inc.	ETD	Equity
EATON CORPORATION PLC	ETN	Equity
89BIO INC	ETNB	Equity
ETON PHARMACEUTICALS, INC	ETON	Equity
ENTERGY CORPORATION	ETR	Equity
Equitrans Midstream Corp	ETRN	Equity
Etsy, Inc.	ETSY	Equity
E2open Parent Holdings, Inc.	ETWO	Equity
iShares MSCI Europe Financials ETF	EUFN	ETF
PROSHARES ULTRASHORT EURO	EUO	ETF
Euronav NV	EURN	Equity
Enviva Partners, LP	EVA	Equity
EVAXION BIOTECH AS	EVAX	Equity
Everbridge, Inc.	EVBG	Equity
Entravision Communications Corporation	EVC	Equity
EverQuote Inc	EVER	Equity
Eve Holding, Inc	EVEX	Equity
EVOGENE LTD	EVGN	Equity
EVgo Inc.	EVGO	Equity
Evolent Health, Inc.	EVH	Equity
EVELO BIOSCIENCES, INC.	EVLO	Equity
Evolv Technologies Holdings, Inc.	EVLV	Equity
Evercore Partners Inc.	EVR	Equity
Evergy, Inc.	EVRG	Equity
Everi Holdings Inc.	EVRI	Equity
EVERTEC, Inc.	EVTC	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Vertical Aerospace Ltd.	EVTL	Equity
EDWARDS LIFESCIENCES CORP.	EW	Equity
ISHARES MSCI AUSTRALIA INDEX	EWA	ETF
EAST WEST BANCORP INC	EWBC	Equity
iShares Canada Index ETF	EWC	ETF
EUROPEAN WAX CENTER, INC.	EW CZ	Equity
iShares MSCI Germany Index Fund ETF	EWG	ETF
ISHARES MSCI HONG KONG INDEX	EW H	ETF
iShares MSCI Italy Index Fund	EW I	ETF
ISHARES MSCI JAPAN INDEX	EW J	ETF
ISHARES MSCI MALAYSIA INDEX ETF	EW M	ETF
iShares MSCI Spain Capped	EW P	ETF
iShares MSCI France	EW Q	ETF
iShares MSCI Singapore	EW S	ETF
ISHARES TAIWAN INDEX ETF	EW T	ETF
iShares MSCI United Kingdom Index ETF	EW U	ETF
ISHARES MSCI MEXICO CAPPED ETF	EW W	ETF
ISHARES MSCI SOUTH KOREA CAPPED INDEX	EW Y	ETF
ISHARES MSCI BRAZIL CAPPED INDEX	EW Z	ETF
EXSCIENTIA PLC SPONSORED ADR	EX AI	Equity
Exact Sciences Corp.	EX AS	Equity
EXELON CORPORATION	EX C	Equity
EXELIXIS, INC.	EX EL	Equity
Endeavour Silver Corp.	EX K	Equity
ExlService Holdings, Inc.	EX LS	Equity
EAGLE MATERIALS INC.	EX P	Equity
EXPEDITORS INTERNATIONAL	EX PD	Equity
EXPEDIA INC.	EX PE	Equity
eXp World Holdings, Inc.	EX PI	Equity
EXPRESS INC.	EX PR	Equity
Extra Space Storage Inc.	EX R	Equity
EXTREME NETWORKS, INC.	EX TR	Equity
National Vision Holdings, Inc.	EY E	Equity
EyePoint Pharmaceuticals, Inc.	EY PT	Equity
iShares MSCI South Africa Index	EZ A	ETF
EZCORP, INC	EZ PW	Equity
iShares MSCI Eurozone	EZ U	ETF
FORD MOTOR COMPANY	F	Equity
First American Financial Corporation	FA F	Equity
ISHARES FALLEN ANGELS USD BOND ETF	FAL N	ETF
FIRST TRUST GLOBAL WIND ENERGY ETF	FAN	ETF
DIAMONDBACK ENERGY, INC.	FAN G	Equity
FARMER BROS. CO.	FAR M	Equity
FARO TECHNOLOGIES	FAR O	Equity
DIREXION DAILY FINANCIAL BULL 3X SHARES	FAS	ETF

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
FASTENAL COMPANY	FAST	Equity
Fate Therapeutics, Inc.	FATE	Equity
Fathom Digital Manufacturing Corporation	FATH	Equity
DIREXION DAILY FINANCIAL BEAR 3X SHARES	FAZ	ETF
FaZe Holdings Inc.	FAZE	Equity
Fortune Brands Innovations, Inc.	FBIN	Equity
FORTRESS BIOTECH, INC.	FBIO	Equity
FB Financial Corporation	FBK	Equity
First Bancorp	FBNC	Equity
First BanCorp	FBP	Equity
FORTE BIOSCIENCES INC.	FBRX	Equity
Franklin Covey Co.	FC	Equity
FUELCELL ENERGY, INC.	FCEL	Equity
First Commonwealth Financial Corp	FCF	Equity
First Trust ISE-Revere Natural Gas ETF	FCG	ETF
FTI CONSULTING, INC.	FCN	Equity
FIRST CITIZENS BANCSHARES, INC.	FCNCA	Equity
FOCUS UNIVERSAL INC	FCUV	Equity
FREEMPORT-MCMORAN COPPER & GOLD INC.	FCX	Equity
4D MOLECULAR THERAPEUTICS, INC.	FDMT	Equity
First Trust Dow Jones Internet ETF	FDN	ETF
Fresh Del Monte Produce Inc.	FDP	Equity
FACTSET RESEARCH SYSTEMS	FDS	Equity
Fidus Investment Corporation	FDUS	Equity
FEDEX CORPORATION	FDX	Equity
FIRSTENERGY CORP.	FE	Equity
Fennec Pharmaceuticals Inc.	FENC	Equity
PHOENIX NEW MEDIA LIMITED	FENG	Equity
Fidelity MSCI Energy Index ETF	FENY	ETF
FERGUSON PLC	FERG	Equity
SPDR EURO STOXX 50 ETF	FEZ	ETF
FutureFuel Corp	FF	Equity
Faraday Future Intelligent Electric Inc.	FFIE	Equity
F5 NETWORKS, INC.	FFIV	Equity
FIRST FOUNDATION, INC.	FFWM	Equity
FibroGen, Inc.	FGEN	Equity
FG Group Holdings Inc.	FGH	Equity
Federated Hermes, Inc.	FHI	Equity
FIRST HORIZON NATIONAL CORPORATION	FHN	Equity
FOGHORN THERAPEUTICS, INC.	FHTX	Equity
First Interstate Bancsystem Inc	FIBK	Equity
FAIR ISAAC CORPORATION	FICO	Equity
FIGS, INC.	FIGS	Equity
FinVolution Group	FINV	Equity
GLOBAL X FINTECH ETF	FINX	ETF



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Fidelity National Information Services, Inc.	FIS	Equity
FISERV INC	FISV	Equity
FIFTH THIRD BANCORP	FITB	Equity
Five Below Inc	FIVE	Equity
DEFIANCE NEXT GEN CONNECTIVITY ETF	FIVG	Equity
Five9, Inc.	FIVN	Equity
Comfort Systems USA Inc.	FIX	Equity
Homology Medicines, Inc.	FIXX	Equity
National Beverage Corp	FIZZ	Equity
FRANKLIN WIRELESS CORP.	FKWL	Equity
FOOT LOCKER, INC.	FL	Equity
FLEXTRONICS LTD	FLEX	Equity
Fulgent Genetics, Inc.	FLGT	Equity
FULL HOUSE RESORTS, INC.	FLL	Equity
FLUENCE ENERGY, INC.	FLNC	Equity
FLEX LNG LTD	FLNG	Equity
Fluent, Inc.	FLNT	Equity
FLOWERS FOODS, INC.	FLO	Equity
FLUOR CORPORATION	FLR	Equity
Flowserve Corp.	FLS	Equity
Fleetcor Technologies Inc.	FLT	Equity
FLUX POWER HOLDINGS, INC	FLUX	Equity
1-800-Flowers.com Inc.	FLWS	Equity
FLYWIRE CORPORATION	FLYW	Equity
iShares MSCI Frontier 100 ETF	FM	ETF
FMC CORPORATION	FMC	Equity
Farmers National Banc Corp.	FMNB	Equity
Fresenius Medical Care AG & Co KGaA	FMS	Equity
Fomento Economico Mexicano, S.A.B. de C.V.	FMX	Equity
Fabrinet	FN	Equity
PARAGON 28, INC.	FNA	Equity
F N B Corp. PA	FNB	Equity
Floor & Decor Holdings, Inc.	FND	Equity
FIDELITY NATIONAL FINANCIAL	FNF	Equity
FINGERMOTION INC	FNGR	Equity
MicroSectors FANG+ ETN	FNGS	ETF
Funko, Inc.	FNKO	Equity
Franco-Nevada Corporation	FNV	Equity
Finance of America Companies Inc.	FOA	Equity
Focus Financial Partners Inc.	FOCS	Equity
Amicus Therapeutics, Inc.	FOLD	Equity
Forestar Group Inc.	FOR	Equity
FORGEROCK INC	FORG	Equity
FormFactor Inc.	FORM	Equity
FOSSIL, INC.	FOSL	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Shift4 Payments, Inc.	FOUR	Equity
FOX CORPCL B COM	FOX	Equity
(New) Fox Corporation Class A	FOXA	Equity
Fox Factory Holding Corp.	FOXF	Equity
First Trust Preferred Securities and Income ETF	FPE	ETF
Farmland Partners Inc.	FPI	Equity
First Industrial Realty Trust	FR	Equity
Republic First Bancorp Inc.	FRBK	Equity
Whole Earth Brands, Inc.	FREE	Equity
FREQUENCY THERAPEUTICS, INC.	FREQ	Equity
FREYR Battery	FREY	Equity
FRANCHISE GROUP, INC.	FRG	Equity
FORGE GLOBAL HOLDINGS, INC.	FRGE	Equity
Fiesta Restaurant Group Inc	FRGI	Equity
FREEDOM HOLDING CORP.	FRHC	Equity
FRONTLINE LIMITED	FRO	Equity
JFROG LTD.	FROG	Equity
Freshpet, Inc.	FRPT	Equity
FRESHWORKS INC	FRSH	Equity
FORESIGHT AUTONOMOUS HOLDINGS LTD	FRSX	Equity
Federal Realty Investment Trust	FRT	Equity
FS KKR Capital Corp.	FSK	Equity
FIRST SOLAR, INC.	FSLR	Equity
Fastly, Inc.	FSLY	Equity
Fortuna Silver Mines Inc.	FSM	Equity
Franklin Street Properties Corporation	FSP	Equity
Fisker Inc.	FSR	Equity
LB Foster Co.	FSTR	Equity
Fortress Transportation and Infrastructure Investors LLC	FTAI	Equity
Farfetch Limited	FTCH	Equity
FTC SOLAR, INC.	FTCI	Equity
frontdoor, inc.	FTDR	Equity
Fuel Tech inc.	FTEK	Equity
FUTURE FINTECH GROUP INC.	FTFT	Equity
FATHOM HOLDINGS INC.	FTHM	Equity
FMC TECHNOLOGIES, INC.	FTI	Equity
Flotek Industries Inc	FTK	Equity
FORTINET INC.	FTNT	Equity
Fortis Inc.	FTS	Equity
Fortive Corporation	FTV	Equity
FUBOTV INC.	FUBO	Equity
FULLER (H.B.) CO	FUL	Equity
FULCRUM THERAPEUTICS, INC.	FULC	Equity
Fulton Financial Corporation	FULT	Equity
CEDAR FAIR, L.P.	FUN	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Futu Holdings Limited	FUTU	Equity
Fiverr International Ltd.	FVRR	Equity
Formula One Group	FWONA	Equity
Liberty Media Corporation Series C Liberty Formula One	FWONK	Equity
Forward Air Corporation	FWRD	Equity
CurrencyShares Australian Dollar Trust	FXA	ETF
CurrencyShares British Pound Sterling Trust	FXB	ETF
CurrencyShares Canadian Dollar Trust	FXC	ETF
CURRENCYSHARES EURO TRUST	FXE	ETF
CurrencyShares Swiss Franc ETF	FXF	ETF
First Trust Health Care AlphaDEX ETF	FXH	ETF
ISHARES FTSE CHINA 25 INDEX FUND	FXI	ETF
F45 TRAINING HOLDINGS, INC.	FXLV	Equity
ProShares UltraShort FTSE China 50	FXP	ETF
CURRENCYSHARES JAPANESE YEN TRUST	FXY	ETF
FRONTIER COMMUNICATIONS PARENT, INC	FYBR	Equity
GENPACT LIMITED	G	Equity
Gaia, Inc.	GAIA	Equity
Gladstone Investment Corporation	GAIN	Equity
GALECTIN THERAPEUTICS, INC.	GALT	Equity
WEDBUSH ETFMG VIDEO GAME TECH ETF	GAMR	ETF
GAN Limited	GAN	Equity
StealthGas Inc	GASS	Equity
GATOS SILVER, INC.	GATO	Equity
GATX Corporation	GATX	Equity
Galiano Gold Inc.	GAU	Equity
Golub Capital BDC, Inc.	GBDC	Equity
GENERATION BIO CO.	GBIO	Equity
Global Business Travel Group, Inc	GBTG	Equity
THE GREENBRIER COMPANIES, INC.	GBX	Equity
Gannett Co., Inc.	GCI	Equity
Genesco Inc.	GCO	Equity
GENERAL DYNAMICS CORPORATION	GD	Equity
GoDaddy Inc.	GDDY	Equity
Golden Entertainment, Inc.	GDEN	Equity
Green Dot Corporation	GDOT	Equity
GOODRX HOLDINGS INC	GDRX	Equity
GDS Holdings Limited	GDS	Equity
MARKET VECTORS GOLD MINERS ETF	GDX	ETF
VANECK VECTORS JUNIOR GOLD MINERS ETF	GDXJ	ETF
GRID DYNAMICS HOLDINGS, INC.	GDYN	Equity
GENERAL ELECTRIC COMPANY	GE	Equity
Greif, Inc.	GEF	Equity
GE HEALTHCARE TECHNOLOGIES INC.	GEHC	Equity
Genesis Energy L.P.	GEL	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Gen Digital Inc.	GEN	Equity
Genetic Technologies Limited	GENE	Equity
Genius Sports Limited	GENI	Equity
GEO Group Inc (The)	GEO	Equity
GEOSPACE TECHNOLOGIES CORPORATION	GEOS	Equity
GERON CORPORATION	GERN	Equity
GUESS? INC.	GES	Equity
Getty Images Holdings, Inc.	GETY	Equity
GEVO, INC.	GEVO	Equity
Griffon Corporation	GFF	Equity
GOLD FIELDS LTD.	GFI	Equity
GFL Environmental Inc.	GFL	Equity
GLOBALFOUNDRIES INC.	GFS	Equity
GRUPO FINANCIERO GALICIA S.A.	GGAL	Equity
GERDAU S.A. (ADR)	GGB	Equity
GRACO, INC.	GGG	Equity
Guardant Health, Inc.	GH	Equity
Greenhill & Co., Inc.	GHL	Equity
CGI Group Inc.	GIB	Equity
G-III Apparel Group Ltd	GIII	Equity
Gildan Activewear Inc	GIL	Equity
GILEAD SCIENCES INC.	GILD	Equity
Gilat Satellite Networks Ltd.	GILT	Equity
GENERAL MILLS, INC.	GIS	Equity
Glaukos Corporation	GKOS	Equity
Globe Life Inc.	GL	Equity
Gladstone Capital Corporation	GLAD	Equity
GLOBAL ONLINE LTD	GLBE	Equity
GLOBUS MARITIME LIMITED	GLBS	Equity
SPDR GOLD TRUST	GLD	ETF
Great Lakes Dredge & Dock	GLDD	Equity
ProShares UltraShort Gold	GLL	ETF
Golar LNG Ltd	GLNG	Equity
Globant S.A.	GLOB	Equity
GasLog Partners LP	GLOP	Equity
Global Partners LP	GLP	Equity
Galapagos NV	GLPG	Equity
Gaming and Leisure Properties Inc	GLPI	Equity
Greenlight Capital Re, Ltd.	GLRE	Equity
Glatfelter Corporation	GLT	Equity
CORNING INC.	GLW	Equity
GlycoMimetics, Inc.	GLYC	Equity
GENERAL MOTORS COMPANY	GM	Equity
Genmab A/S	GMAB	Equity
GAMIDA CELL LTD	GMDA	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
GAMESTOP CORPORATION	GME	Equity
GLOBUS MEDICAL, INC.	GMED	Equity
Global Medical REIT Inc.	GMRE	Equity
GMS Inc.	GMS	Equity
Genie Energy Ltd.	GNE	Equity
GENCO SHIPPING & TRADING LTD	GNK	Equity
Global Net Lease, Inc.	GNL	Equity
Genprex, Inc.	GNPX	Equity
Generac Holdings Inc	GNRC	Equity
GENIUS GROUP LIMITED	GNS	Equity
Genasys Inc.	GNSS	Equity
GENTEX CORP.	GNTX	Equity
Genius Brands International, Inc.	GNUS	Equity
GENWORTH FINANCIAL INC.	GNW	Equity
Grocery Outlet Holding Corp	GO	Equity
Canoo Inc.	GOEV	Equity
Golden Ocean Group Limited	GOGL	Equity
GOGO, INC.	GOGO	Equity
GOL LINHAS AEREAS INTELIGENTIEGOL LINHAS AEREAS INTELIGENTIES SAS SA	GOL	Equity
Barrick Gold Corporation	GOLD	Equity
Gladstone Commercial Corporation	GOOD	Equity
Alphabet Inc. Class C	GOOG	Equity
Alphabet Inc. Class A	GOOGL	Equity
Canada Goose Holdings Inc.	GOOS	Equity
Gold Resource Corporation	GORO	Equity
Gossamer Bio Inc	GOSS	Equity
GSX Techedu Inc.	GOTU	Equity
GREENPOWER MOTOR COMPANY INC.	GP	Equity
GENUINE PARTS	GPC	Equity
GROUP 1 AUTOMOTIVE INC.	GPI	Equity
Graphic Packaging Holding Company	GPK	Equity
Granite Point Mortgage Trust Inc.	GPMT	Equity
GLOBAL PAYMENTS INC.	GPN	Equity
GREEN PLAINS PARTNERS LP	GPP	Equity
Green Plains Renewable Energy, Inc.	GPRE	Equity
Geopark Ltd	GPRK	Equity
GOPRO, INC.	GPRO	Equity
GAP INC.	GPS	Equity
Grab Holdings Limited	GRAB	Equity
Green Brick Partners, Inc.	GRBK	Equity
Global X MSCI Greece ETF	GREK	ETF
Grifols SA	GRFS	Equity
GRINDROD SHIPPING HOLDINGS LTD.	GRIN	Equity
GARMIN LTD.	GRMN	Equity
GROVE COLLABORATIVE HOLDINGS, INC.	GROV	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
U.S. Global Investors, Inc.	GROW	Equity
GOLD ROYALTY CORP.	GROY	Equity
Graphite Bio, Inc.	GRPH	Equity
GROUPON, INC.	GRPN	Equity
GRITSTONE ONCOLOGY INC	GRTS	Equity
GALERA THERAPEUTICS, INC.	GRTX	Equity
GrowGeneration Corp.	GRWG	Equity
THE GOLDMAN SACHS GROUP, INC.	GS	Equity
Globalstar, Inc	GSAT	Equity
GOLDMAN SACHS BDC, INC	GSBD	Equity
iShares S&P GSCI Commodity Indexed Trust	GSG	ETF
Goosehead Insurance, Inc	GSHD	Equity
GLAXOSMITHKLINE PLC	GSK	Equity
GLOBAL SHIP LEASE, INC.	GSL	Equity
Globe Specialty Metals Inc	GSM	Equity
GOODYEAR TIRE & RUBBER COMPANY	GT	Equity
GT BIOPHARMA INC	GTBP	Equity
Gran Tierra Energy Inc.	GTE	Equity
Gates Industrial Corporation plc	GTES	Equity
G1 Therapeutics, Inc.	GTHX	Equity
Good Times Restaurants Inc.	GTIM	Equity
GITLAB INC	GTLB	Equity
Chart Industries Inc	GTLS	Equity
Gray Television, Inc.	GTN	Equity
Garrett Motion Inc.	GTX	Equity
Getty Realty Corp.	GTY	Equity
Direxion Dly S&P Oil&Gs Ex&Prd BI 3X ETF	GUSH	ETF
Granite Construction Incorporated	GVA	Equity
ESS Tech, Inc.	GWH	Equity
Guidewire Software, Inc.	GWRE	Equity
GRAINGER, W.W. INC.	GWV	Equity
Global X MSCI Colombia ETF	GXG	ETF
GXO LOGISTICS INC	GXO	Equity
Hyatt Hotels Corporation	H	Equity
Hawaiian Holdings, Inc.	HA	Equity
PureFunds ISE Cyber Security ETF	HACK	ETF
Haemonetics Corporation	HAE	Equity
THE HAIN CELESTIAL GROUP, INC.	HAIN	Equity
HALLIBURTON COMPANY	HAL	Equity
Halozyme Therapeutics Inc.	HALO	Equity
Harpoon Therapeutics, Inc.	HARP	Equity
HASBRO INC.	HAS	Equity
Hannon Armstrong Sustainable Infrastructure Capital, Inc.	HASI	Equity
HAYWARD HOLDINGS INC	HAYW	Equity
HUNTINGTON BANCSHARES INCORPORATED	HBAN	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Hanesbrands Inc.	HBI	Equity
Harvard Bioscience, Inc.	HBIO	Equity
HudBay Minerals, Inc.	HBM	Equity
Horizon Bancorp, Inc.	HBNC	Equity
HCA HOLDINGS, INC.	HCA	Equity
Health Catalyst, Inc.	HCAT	Equity
Warrior Met Coal, Inc.	HCC	Equity
HCI Group, Inc.	HCI	Equity
HUTCHMED (China) Limited	HCM	Equity
HASHICORP, INC.	HCP	Equity
Healthcare Services Group, Inc.	HCSG	Equity
THE HOME DEPOT, INC.	HD	Equity
HDFC BANK LTD	HDB	Equity
AdvisorShares Ranger Equity Bear ETF	HDGE	ETF
DEFIANCE NEXT GEN H2 ETF	HDRO	ETF
Hudson Technologies, Inc.	HDSN	Equity
iShares High Dividend Equity Fund	HDV	ETF
Hawaiian Electric Industries Inc.	HE	Equity
Turtle Beach Corporation	HEAR	Equity
WisdomTree Europe Hedged Equity Fund	HEDJ	ETF
H&E Equipment Services, Inc.	HEES	Equity
HEICO Corporation	HEI	Equity
HELEN OF TROY LTD	HELE	Equity
Holly Energy Partners L.P.	HEP	Equity
GLOBAL X VIDEO GAMES & ESPORTS ETF	HERO	ETF
HESS CORPORATION	HES	Equity
Hess Midstream LP	HESM	Equity
HEXO Corp.	HEXO	Equity
HF FOODS GROUP, INC.	HFFG	Equity
HUMANIGEN INC	HGEN	Equity
HAGERTY INC	HGTY	Equity
Hilton Grand Vacations Inc.	HGV	Equity
The Howard Hughes Corporation	HHC	Equity
Hillenbrand Inc	HI	Equity
Hibbett Sports Inc	HIBB	Equity
DIREXION DAILY S&P 500 HIGH BETA BEAR 3X SHARES	HIBS	ETF
THE HARTFORD FINANCIAL SERVICES GROUP, INC.	HIG	Equity
Huntington Ingalls Industries, Inc.	HII	Equity
Hims & Hers Health, Inc.	HIMS	Equity
Himax Technologies, Inc.	HIMX	Equity
HIGH TIDE, INC.	HITI	Equity
HIVE BLOCKCHAIN TECHNOLOGIES LTD.	HIVE	Equity
HIGHWOODS PROPERTIES, INC.	HIW	Equity
DIREXION HYDROGEN ETF	HJEN	ETF
HECLA MINING COMPANY	HL	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
HERBALIFE LTD.	HLF	Equity
Heliogen, Inc.	HLGN	Equity
Harmonic Inc	HLIT	Equity
HOLLEY INC.	HLLY	Equity
Hillman Solutions Corporation	HLMN	Equity
HALEON PLC	HLN	Equity
HILTON WORLDWIDE HOLDINGS INC.	HLT	Equity
CUE HEALTH INC	HLTH	Equity
HELIX ENERGY SOLUTIONS GROUP INC	HLX	Equity
HONDA MOTOR COMPANY LTD	HMC	Equity
HomeStreet Inc	HMST	Equity
HARMONY GOLD MINING COMPANY LIMITED	HMY	Equity
HALLADOR ENERGY CO	HNRG	Equity
THE HONEST COMPANY, INC	HNST	Equity
HARLEY-DAVIDSON, INC.	HOG	Equity
Hollysys Automation Technologies Ltd.	HOLI	Equity
HOLOGIC, INC.	HOLX	Equity
Home Bancshares, Inc.	HOMB	Equity
HONEYWELL INTERNATIONAL INC.	HON	Equity
HARBORONE BANCORP INC	HONE	Equity
Robinhood Markets, Inc.	HOOD	Equity
HOOKIPA PHARMA, INC.	HOOK	Equity
Anywhere Real Estate Inc.	HOUS	Equity
WEREWOLF THERAPEUTICS, INC.	HOWL	Equity
HELMERICH & PAYNE INC	HP	Equity
Hewlett Packard Enterprise Company	HPE	Equity
HIGHPEAK ENERGY INC	HPK	Equity
Hudson Pacific Properties Inc.	HPP	Equity
HP Inc.	HPQ	Equity
HealthEquity, Inc.	HQY	Equity
Healthcare Realty Trust Incorporated	HR	Equity
H&R BLOCK, INC.	HRB	Equity
Herc Holdings Inc.	HRI	Equity
HORMEL FOODS CORPORATION	HRL	Equity
HARMONY BIOSCIENCES HOLDINGS IN	HRMY	Equity
Harrow Health Inc	HROW	Equity
HIRERIGHT HOLDINGS CORP	HRT	Equity
Heritage Insurance Holdings, Inc.	HRTG	Equity
Heron Therapeutics, Inc.	HRTX	Equity
Horizon Technology Finance Corp	HRZN	Equity
HSBC HOLDINGS PLC	HSBC	Equity
Harsco Corporation	HSC	Equity
Henry Schein, Inc.	HSIC	Equity
Heidrick & Struggles International Inc.	HSII	Equity
HESKA CORPORATION	HSKA	Equity



MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Host Hotels & Resorts	HST	Equity
HealthStream Inc	HSTM	Equity
HERSHEY CO THE	HSY	Equity
Hersha Hospitality Trust	HT	Equity
Hercules Capital, Inc.	HTGC	Equity
Hilltop Holdings Inc.	HTH	Equity
China Lodging Group, Limited	HTHT	Equity
HEARTLAND EXPRESS, INC.	HTLD	Equity
FUSION FUEL GREEN PLC	HTOO	Equity
Hertz Global Holdings, Inc.	HTZ	Equity
Hub Group, Inc.	HUBG	Equity
HubSpot, Inc.	HUBS	Equity
FSD Pharma Inc.	HUGE	Equity
HUMANA INC.	HUM	Equity
Humacyte, Inc.	HUMA	Equity
HUNTSMAN CORPORATION	HUN	Equity
Huron Consulting Group, Inc.	HURN	Equity
HOUSTON AMERICAN ENERGY CORPORATION	HUSA	Equity
HUT 8 MINING CORP	HUT	Equity
HUYA Inc.	HUYA	Equity
Haverty Furniture Companies, Inc	HVT	Equity
Hancock Whitney Corporation	HWC	Equity
Howmet Aerospace Inc	HWM	Equity
HEXCEL CORPORATION	HXL	Equity
Market Vectors High Yield Municipal Index ETF	HYD	ETF
HYDROFARM HOLDINGS GROUP, INC	HYFM	Equity
ISHARES IBOXX \$ HIGH YIELD CORPORATE BOND	HYG	ETF
AdvisorShares Peritus High Yield ETF	HYLD	ETF
Hyliion Holdings Corporation	HYLN	Equity
SPDR Nuveen Bloomberg High Yield Municipal Bond ETF	HYMB	ETF
HYCROFT MINING HOLDING	HYMC	Equity
Hyzon Motors Inc.	HYZN	Equity
Horizon Pharma, Inc.	HZNP	Equity
MARINEMAX , INC.	HZO	Equity
IAC/InterActiveCorp	IAC	Equity
IAMGOLD CORPORATION	IAG	Equity
iShares U.S. Broker-Dealers & Sec. Exchanges ETF	IAI	ETF
Integra LifeSciences Holdings Corporation	IART	Equity
INTEGRAL AD SCIENCE HOLDING CORP	IAS	Equity
iShares US Regional Banks	IAT	ETF
iShares Gold Trust	IAU	ETF
ISHARES NASDAQ BIOTECHNOLOGY	IBB	ETF
Independent Bank Corp/MI	IBCP	Equity
iBio, Inc.	IBIO	Equity
Interactive Brokers Group Inc	IBKR	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
INTERNATIONAL BUSINESS MACHINES CORPORATION	IBM	Equity
ICICI BANK LIMITED	IBN	Equity
Installed Building Products, Inc.	IBP	Equity
ImmunityBio, Inc.	IBRX	Equity
iCAD Inc.	ICAD	Equity
Intercontinental Exchange Inc	ICE	Equity
ISHARES COHEN & STEERS REALTY MAJORS INDEX FUND	ICF	ETF
Ichor Holdings, Ltd.	ICHR	Equity
ICL GROUP LTD.ICL GROUP LTD.	ICL	Equity
iShares Global Clean Energy ETF	ICLN	ETF
ICON Public Limited Company	ICLR	Equity
INTERCEPT PHARMACEUTICALS, INC.	ICPT	Equity
ICU MEDICAL, INC.	ICUI	Equity
ICOSAVAX, INC.	ICVX	Equity
IDACORP, INC.	IDA	Equity
INTERDIGITAL, INC.	IDCC	Equity
Ideanomics, Inc.	IDEX	Equity
Intellicheck, Inc.	IDN	Equity
ISHARES SELF-DRIVING EV AND TECH ETF	IDRV	ETF
IDT Corporation	IDT	Equity
iShares International Select Dividend ETF	IDV	ETF
IDEXX Laboratories, Inc.	IDXX	Equity
IDEAYA BIOSCIENCES, INC.	IDYA	Equity
iShares 7 -10 Year Treasury Bond ETF	IEF	ETF
iShares Core MSCI EAFE ETF	IEFA	ETF
iShares 3-7 Year Treasury Bond ETF	IEI	ETF
iShares Core MSCI Emerging Markets	IEMG	ETF
iShares U.S. Oil&Gas Explor&Prodtn	IEO	ETF
ICAHN ENTERPRISES, L.P.	IEP	Equity
iShares Europe	IEV	ETF
IDEX Corporation	IEX	Equity
iShares U.S. Oil Equipment&Services	IEZ	ETF
International Flavors & Fragrances Inc.	IFF	Equity
InflaRx N.V.	IFRX	Equity
iSharesTrustiShares 5-10 Yr Inv Grade Corp BondETF	IGIB	ETF
iShares Expanded Tech Sector ETF	IGM	ETF
IGM Biosciences, Inc	IGMS	Equity
iShares North American Tech-Multimd Ntwk	IGN	ETF
International Game Technology Plc	IGT	Equity
Tech-Software Sector ETF	IGV	ETF
iShares U.S. Medical Devices ETF	IHI	ETF
iHeartMedia Inc	IHRT	Equity
IHS HOLDING LTD.	IHS	Equity
INSTEEL INDUSTRIES INC	IIIN	Equity
I3 VERTICALS INC	IIIV	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Innovative Industrial Properties, Inc.	IIPR	Equity
iShares Core S&P Mid-Cap ETF	IJH	ETF
iShares Core S&P Small-Cap ETF	IJR	ETF
iShares S&P Small-Cap 600 Value	IJS	ETF
iShares Latin America 40	ILF	ETF
AcuityAds Holdings Inc	ILLM	Equity
ILLUMINA INC.	ILMN	Equity
INDUSTRIAL LOGISTICS PROPERTIES TRUST	ILPT	Equity
I-MAB	IMAB	Equity
IMAX CORPORATION	IMAX	Equity
IMEDIA BRANDS, INC	IMBI	Equity
IMMUNOGEN INC	IMGN	Equity
Ingles Markets, Incorporated	IMKTA	Equity
IMMUTEP LTD	IMMP	Equity
IMMERSION CORP	IMMR	Equity
IMMUNOME, INC	IMNM	Equity
IMPERIAL OIL LTD.	IMO	Equity
IMMATICS N.V.	IMTX	Equity
Immunic, Inc	IMUX	Equity
IMMUNOVANT INC	IMVT	Equity
INTERNATIONAL MONEY EXPRESS, INC.	IMXI	Equity
INHIBRX INC	INBX	Equity
INCYTE GENOMICS INC	INCY	Equity
iShares MSCI India	INDA	ETF
indie Semiconductor, Inc	INDI	Equity
Direxion Daily India Bull 3x ETF	INDL	ETF
INFORMATICA, INC.	INFA	Equity
INFINITY PHARMACEUTICALS, INC.	INFI	Equity
HORIZON KINETICS INFLATION BENEFICIARIES ETF	INFL	ETF
Infinera Corporation	INFN	Equity
INFOSYS LTD.	INFY	Equity
ING GROEP N.V.	ING	Equity
Inogen, Inc.	INGN	Equity
Ingredion Incorporated	INGR	Equity
IMMUNE BIO INC	INMB	Equity
InMode Ltd.	INMD	Equity
Summit Hotel Properties, Inc.	INN	Equity
INNOVAGE HOLDING CORP	INNV	Equity
INOVIO PHARMACEUTICALS, INC.	INO	Equity
Innodata Inc	INOD	Equity
INSPIRED ENTERTAINMENT, INC.	INSE	Equity
Inseego Corporation	INSG	Equity
Insmid, Inc.	INSM	Equity
Inspire Medical Systems Inc	INSP	Equity
INSTRUCTURE HOLDINGS, INC.	INST	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
International Seaways, Inc	INSW	Equity
World Fuel Services Corporation	INT	Equity
Intapp, Inc.	INTA	Equity
INTEL CORPORATION	INTC	Equity
INTEST CORPORATION	INTT	Equity
INTUIT CORP	INTU	Equity
INTRUSION INC	INTZ	Equity
Innoviva, Inc.	INVA	Equity
Identiv Inc.	INVE	Equity
Invitation Homes Inc.	INVH	Equity
Innoviz Technologies Ltd.	INVZ	Equity
INOZYME PHARMA, INC.	INZY	Equity
IonQ, Inc	IONQ	Equity
Ionis Pharmaceuticals, Inc.	IONS	Equity
SAMSARA, INC.	IOT	Equity
iovance Biotherapeutics, Inc.	IOVA	Equity
INTERNATIONAL PAPER COMPANY	IP	Equity
IMMUNOPRECISE ANTIBODIES LTD.	IPA	Equity
THE INTERPUBLIC GROUP OF COMPANIES, INC.	IPG	Equity
IPG Photonics Corp	IPGP	Equity
Intrepid Potash, Inc.	IPI	Equity
Renaissance IPO ETF	IPO	ETF
CENTURY THERAPEUTICS, INC.	IPSC	Equity
iQIYI, Inc.	IQ	Equity
IQVIA Holdings Inc.	IQV	Equity
INGERSOLL-RAND PLC	IR	Equity
iShares Robo and Artificial Intel Multisector ETF	IRBO	ETF
iRobot Corporation	IRBT	Equity
Iridium Communications Inc.	IRDM	Equity
Iris Energy Limited	IREN	Equity
IRON MOUNTAIN INC. (elec div)	IRM	Equity
IronNet, Inc.	IRNT	Equity
Independence Realty Trust, Inc.	IRT	Equity
iRhythm Technologies, Inc	IRTC	Equity
Ironwood Pharmaceuticals Inc	IRWD	Equity
IVERIC bio, Inc.	ISEE	Equity
INSPIRATO INCORPORATED	ISPO	Equity
INTUITIVE SURGICAL, INC.	ISRG	Equity
ISUN, INC.	ISUN	Equity
Gartner, Inc.	IT	Equity
iShares US Aerospace and Defense ETF	ITA	ETF
ISHARES U.S. HOME CONSTRUCTION ETF	ITB	ETF
Intra-Cellular Therapies, Inc.	ITCI	Equity
Integer Holdings Corporation	ITGR	Equity
Iteris, Inc.	ITI	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
VanEck Intermediate Muni ETF	ITM	ETF
iTeos Therapeutics, Inc.	ITOS	Equity
iShares Core S&P Total U.S. Stock Market ETF	ITOT	ETF
IT Tech Packaging, Inc.	ITP	Equity
ITRON, INC.	ITRI	Equity
ITT Inc.	ITT	Equity
ITAU UNIBANCO HOLDING S.A.	ITUB	Equity
ILLINOIS TOOL WORKS INC.	ITW	Equity
Intevac Inc.	IVAC	Equity
iShares S&P 500 Value Index Fund	IVE	ETF
QUADRATIC INTEREST RATE VOL. AND INFLATION ETF	IVOL	ETF
INVESCO MORTGAGE CAPITAL INCCOM	IVR	Equity
iShares Core S&P 500 ETF	IVV	ETF
Invivyd, Inc.	IVVD	Equity
iShares S&P 500 Growth ETF	IVW	ETF
Invesco Ltd	IVZ	Equity
iShares Russell 1000	IWB	ETF
ISHARES RUSSELL MICROCAP INDEX	IWC	ETF
ISHARES RUSSELL 1000 VALUE ETF	IWD	ETF
iShares Russell 1000 Growth ETF	IWF	ETF
ISHARES RUSSELL 2000 INDEX	IWM	ETF
ISHRS RUSSELL 2000 VALUE ETF	IWN	ETF
ISHRS RUSSELL 2000 GROWTH INDX	IWO	ETF
iShares Russell Midcap Growth Index Fund ETF	IWP	ETF
ISHARES RUSSELL MIDCAP INDEX FUND	IWR	ETF
ISHARES RUSSELL MIDCAP VALUE INDEX FUND	IWS	ETF
ISHARES RUSSELL 3000 INDX	IWV	ETF
ISHARES DJ US ENERGY SECTOR ETF	IYE	ETF
ISHARES DOW JONES U.S. BASIC MATERIALS SECT	IYM	ETF
ISHARES DOW JONES US REAL ESTATE	IYR	ETF
ISHARES DOW JONES TRANSPORTATION AVERAGE	IYT	ETF
iShares US Technology	IYW	ETF
iShares US Telecommunications	IYZ	ETF
IZEA WORLDWIDE, INC.	IZEA	Equity
Jacobs Engineering Group Inc.	J	Equity
JACK IN THE BOX, INC	JACK	Equity
JAKKS PACIFIC, INC.	JAKK	Equity
Jamf Holding Corp	JAMF	Equity
Jazz Pharmaceuticals Plc	JAZZ	Equity
JBG SMITH Properties	JBGS	Equity
JB HUNT TRANSPORT SERVICES INC.	JBHT	Equity
Janus International Group, Inc.	JBI	Equity
JABIL CIRCUIT INC.	JBL	Equity
JETBLUE AIRWAYS CORPORATI	JBLU	Equity
John Bean Technologies Corporation	JBT	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Johnson Controls International plc	JCI	Equity
JD.COM, INC.	JD	Equity
DIREXION DAILY JR GLD MNRS BEAR 3X ETF	JDST	ETF
Jefferies Financial Group Inc.	JEF	Equity
JELD-WEN Holding, Inc	JELD	Equity
JPMORGAN EQUITY PREMIUM INCOME ETF	JEPI	ETF
J.P. MORGAN NASDAQ EQUITY PREMIUM INCOME ETF	JEPQ	ETF
US Global Jets ETF	JETS	ETF
JIAYIN GROUP INC.	JFIN	Equity
AURORA MOBILE LTD.	JG	Equity
Janus Henderson Group Plc	JHG	Equity
IPATH B BLOOMBERG COPPER TOTAL RETURN ETN	JJC	ETF
IPATH SERIES B BLOOMBERG NICKEL SUBINDEX TOTAL RETURN ETN	JJN	ETF
Jack Henry & Associates Inc.	JKHY	Equity
Jinkosolar Holding Company Limited	JKS	Equity
Jones Lang LaSalle Incorporated	JLL	Equity
Jumia Technologies AG	JMIA	Equity
JOHNSON & JOHNSON	JNJ	Equity
SPDR BARCLAYS HIGH YIELD BOND	JNK	ETF
JUNIPER NETWORKS, INC.	JNPR	Equity
DIREXION DAILY JR GLD MNRS BULL 3X ETF	JNUG	ETF
iPath Series B Bloomberg Coffee Subindex Total Return ETN	JO	ETF
JOANN, INC.	JOAN	Equity
Joby Aviation, Inc.	JOBY	Equity
ST. JOE CORPORATION	JOE	Equity
JPMORGAN CHASE & COMPANY	JPM	Equity
JASPER THERAPEUTICS INC	JSPR	Equity
NORDSTROM INC.	JWN	Equity
JACKSON FINANCIAL INCORPORATION	JXN	Equity
JOINT CORP	JYNT	Equity
KELLOGG COMPANY	K	Equity
Kaiser Aluminum Corporation	KALU	Equity
KALVISTA PHARMACEUTICALS INC	KALV	Equity
KAR AUCTION SERVICES, INC.	KAR	Equity
KB Financial Group, Inc.	KB	Equity
KraneShares Bosera MSCI China A ETF	KBA	ETF
SPDR S&P BANK ETF	KBE	ETF
KB HOME	KBH	Equity
KUBIENT INC	KBNT	Equity
KBR, Inc.	KBR	Equity
PowerShares KBW Bank ETF	KBWB	ETF
Kingsoft Cloud Holdings Limited	KC	Equity
KYNDRYL HOLDINGS INCORPORATION	KD	Equity
Chinook Therapeutics	KDNY	Equity
Keurig Dr. Pepper Inc.	KDP	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Kelly Services Inc	KELYA	Equity
KOREA ELECTRIC POWER CORP.	KEP	Equity
KIRBY CORPORATION	KEX	Equity
KEYCORP	KEY	Equity
Keysight Technologies Inc.	KEYS	Equity
Kforce Inc	KFRC	Equity
KORN/FERRY INTERNATIONAL	KFY	Equity
KINROSS GOLD CORPORATION	KGC	Equity
The Kraft Heinz Company	KHC	Equity
ORTHOPEDIATRICS CORP	KIDS	Equity
SPDR S&P Insurance ETF	KIE	ETF
KIMCO REALTY CORP.	KIM	Equity
Nextdoor Holdings, Inc.	KIND	Equity
Kirkland's Inc.	KIRK	Equity
KKR & Co. LP	KKR	Equity
KLA-TENCOR CORPORATION	KLAC	Equity
KULICKE AND SOFFA IND INC	KLIC	Equity
KALTURA, INC.	KLTR	Equity
KLX ENERGY SERVICES HOLDINGS, INC.	KLXE	Equity
KIMBERLY-CLARK CORPORATION	KMB	Equity
KAMADA LTD	KMDA	Equity
KINDER MORGAN, INC.	KMI	Equity
Kennametal Inc.	KMT	Equity
CARMAX INC.	KMX	Equity
KNOWLES CORPORATION	KN	Equity
Kandi Technologies Corporation	KNDI	Equity
KNOT Offshore Partners LP	KNOP	Equity
Kiniksa Pharmaceuticals, Ltd	KNSA	Equity
Kinsale Capital Group Inc	KNSL	Equity
Knight-Swift Transportation Holdings Inc.	KNX	Equity
THE COCA-COLA COMPANY	KO	Equity
Kodiak Sciences Inc	KOD	Equity
Eastman Kodak Company	KODK	Equity
Coca-Cola Femsa SAB de CV	KOF	Equity
ProShares UltraShort Bloomberg Natrl Gas	KOLD	ETF
Koppers Holdings, Inc.	KOP	Equity
Kopin Corporation	KOPN	Equity
Kosmos Energy Ltd	KOS	Equity
Katapult Holdings, Inc.	KPLT	Equity
KARYOPHARM THERAPEUTICS, INC.	KPTI	Equity
THE KROGER COMPANY	KR	Equity
KraneShares Global Carbon Strategy ETF	KRBN	ETF
Kilroy Realty Corp.	KRC	Equity
SPDR S&P REGIONAL BANKING ETF	KRE	ETF
KKR REAL ESTATE FINANCE TRUST INC.	KREF	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Kite Realty Group Trust	KRG	Equity
Sundial Growers Inc	KRMD	Equity
Kornit Digital Ltd.	KRNT	Equity
Kearny Financial Corp.	KRNY	Equity
Kronos Worldwide, Inc.	KRO	Equity
KRONOS BIO INC	KRON	Equity
KIMBELL ROYALTY PARTNERS LP	KRP	Equity
Karuna Therapeutics, Inc	KRTX	Equity
KRYSTAL BIOTECH, INC.	KRYS	Equity
KOHL'S CORPORATION	KSS	Equity
KT Corp.	KT	Equity
Kontoor Brands, Inc.	KTB	Equity
Key Tronic Corporation	KTCC	Equity
Kratos Defense & Security Solutions, Inc.	KTOS	Equity
KULR TECHNOLOGY GROUP INC	KULR	Equity
Kura Oncology, Inc	KURA	Equity
Kennedy-Wilson Holdings Inc.	KW	Equity
KraneShares CSI China Internet ETF	KWEB	ETF
KAIXIN AUTO HOLDINGS	KXIN	Equity
KYMERA THERAPEUTICS INC	KYMR	Equity
Kayne Anderson MLP Investment Company	KYN	Equity
KAZIA THERAPEUTICS LTD	KZIA	Equity
KEZAR LIFE SCIENCES INC	KZR	Equity
LOEWS CORPORATION	L	Equity
Standard BioTools Inc	LAB	Equity
Direxion Daily S&P Biotech Bear 3X ETF	LABD	ETF
Direxion Daily S&P Biotech Bull 3X ETF	LABU	ETF
Lithium Americas Corp	LAC	Equity
Lithia Motors Inc	LAD	Equity
Ladder Capital Corp	LADR	Equity
Lakeland Industries, Inc.	LAKE	Equity
LAMAR ADVERTISING COMPANY	LAMR	Equity
Gladstone Land Corporation	LAND	Equity
nLIGHT, Inc	LASR	Equity
Laureate Education, Inc.	LAUR	Equity
CS DISCO, INC	LAW	Equity
LAZARD LTD.	LAZ	Equity
Luminar Technologies Inc	LAZR	Equity
Liberty Broadband Corporation	LBRDK	Equity
Liberty Oilfield Services Inc	LBRT	Equity
LIBERTY GLOBAL INC	LBTYA	Equity
LIBERTY GLOBAL PLC	LBTYK	Equity
LendingClub Corporation	LC	Equity
Lucid Group, Inc. (LCID)	LCID	Equity
LCI Industries (LCII)	LCII	Equity



MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Lineage Cell Therapeutics, Inc	LCTX	Equity
LIFETIME BRANDS, INC	LCUT	Equity
LOANDEPOT, INC.	LDI	Equity
LUMOS NETWORKS CORPORATION	LDOS	Equity
LANDS' END, INC.	LE	Equity
Lear Corporation	LEA	Equity
Lincoln Electric Holdings, Inc.	LECO	Equity
LEGGETT & PLATT, INC.	LEG	Equity
LEGEND BIOTECH CORP	LEGN	Equity
LENNAR CORPORATION	LEN	Equity
LESLIES INC	LESL	Equity
CENTRUS ENERGY CORP.	LEU	Equity
Lion Electric Company	LEV	Equity
Levi Strauss & Co.	LEVI	Equity
Lifecore Biomedical, Inc	LFCR	Equity
Leafly Holdings, Inc.	LFLY	Equity
LifeMD, Inc.	LFMD	Equity
LIFESTANCE HEALTH GROUP, INC.	LFST	Equity
Lifevantage Corporation	LFVN	Equity
Lions Gate Entertainment Corp.	LGFA	Equity
Lions Gate Entertainment Corporation	LGFB	Equity
LION GROUP HOLDING LTD.	LGHL	Equity
LGI Homes, Inc.	LGIH	Equity
Ligand Pharmaceuticals Inc.	LGND	Equity
Largo Inc.	LGO	Equity
LABORATORY CORP OF AMER HLDG	LH	Equity
L3Harris Technologies, Inc.	LHX	Equity
Li Auto Inc.	LI	Equity
Li-Cycle Holdings Corporation	LICY	Equity
AEye, Inc.	LIDR	Equity
ATYR PHARMA, INC.	LIFE	Equity
LENNOX INTERNATIONAL, INC.	LII	Equity
LiLAC Group	LILA	Equity
Liberty LiLAC Group	LILAK	Equity
Lilium N.V.	LILM	Equity
Linde plc	LIN	Equity
Lincoln Educational Services Corporation	LINC	Equity
Lindblad Expeditions Holdings, Inc	LIND	Equity
Global X Lithium & Battery ETF	LIT	ETF
Lumentum Holdings Inc.	LITE	Equity
SNOW LAKE RESOURCES LTD.	LITM	Equity
LivaNova PLC	LIVN	Equity
LIZHI INC	LIZI	Equity
LKQ Corporation	LKQ	Equity
Lumber Liquidators Holdings Inc	LL	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
TERRAN ORBITAL CORPORATION	LLAP	Equity
ELI LILLY AND COMPANY	LLY	Equity
LeMaitre Vascular Inc.	LMAT	Equity
LIMBACH HOLDINGS, INC.	LMB	Equity
LM FUNDING AMERICA INC	LMFA	Equity
Lemonade, Inc	LMND	Equity
LOCKHEED MARTIN CORPORATION	LMT	Equity
LINCOLN NATIONAL CORPORATION	LNC	Equity
CHENIERE ENERGY, INC.	LNG	Equity
Lindsay Corporation	LNN	Equity
Alliant Energy Corporation	LNT	Equity
Lantheus Holdings, Inc	LNTH	Equity
Light & Wonder, Inc.	LNW	Equity
Live Oak Bancshares, Inc	LOB	Equity
LOCAL BOUNTY CORPORATION	LOCL	Equity
EL POLLO LOCO HOLDINGS, INC.	LOCO	Equity
Comstock Mining, Inc.	LODE	Equity
Logitech International S.A.	LOGI	Equity
Loma Negra Cia Industrial Argentina SA	LOMA	Equity
Loop Industries, Inc	LOOP	Equity
Grand Canyon Education, Inc.	LOPE	Equity
SPARK NETWORKS SE	LOV	Equity
The Lovesac Company	LOVE	Equity
LOWE'S COMPANIES INC.	LOW	Equity
Dorian LPG Ltd	LPG	Equity
LG Display Co., Ltd.	LPL	Equity
LPL Financial Holdings Inc.	LPLA	Equity
OPEN LENDING CORPORATION	LPRO	Equity
LivePerson, Inc.	LPSN	Equity
LEAP THERAPEUTICS, INC	LPTX	Equity
LOUISIANA-PACIFIC CORPORATION	LPX	Equity
iShares iBoxx \$ Invst Grade Crp Bond	LQD	ETF
Liquidia Corporation	LQDA	Equity
LIQUIDITY SERVICES, INC.	LQDT	Equity
LAM RESEARCH CORPORATION	LRCX	Equity
LARIMAR THERAPEUTICS, INC.	LRMR	Equity
K12, Inc.	LRN	Equity
Lesaka Technologies, Inc.	LSAK	Equity
Lattice Semiconductor Corporation	LSCC	Equity
Life Storage, Inc.	LSI	Equity
LIGHTSPEED POS, INC.	LSPD	Equity
LANDSTAR SYSTEM INC	LSTR	Equity
The Liberty SiriusXM Group	LSXMA	Equity
LIBERTY MEDIA CORP- SIRIUSXM	LSXMK	Equity
LTC Properties Inc.	LTC	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Latch, Inc.	LTCH	Equity
LIFE TIME GROUP HOLDINGS, INC.	LTH	Equity
Livent Corporation	LTHM	Equity
Liberty TripAdvisor Holdings, Inc.	LTRPA	Equity
LANTRONIX, INC.	LTRX	Equity
LUFAX HOLDING LTD	LU	Equity
LULULEMON ATHLETICA INC.	LULU	Equity
CenturyLink, Inc.	LUMN	Equity
LUNA INNOVATIONS INC	LUNA	Equity
PULMONX CORP	LUNG	Equity
SOUTHWEST AIRLINES COMPANY	LUV	Equity
LULUS FASHION LOUNGE HOLDINGS, INC.	LVLU	Equity
LiveOne, Inc.	LVO	Equity
LiveVox Holding, Inc.	LVOX	Equity
LAS VEGAS SANDS CORPORATION	LVS	Equity
LiveWire Group, Inc.	LVWR	Equity
Lamb Weston Holdings, Inc.	LW	Equity
LIGHTWAVE LOGIC, INC.	LWLG	Equity
LexinFintech Holdings Ltd.	LX	Equity
Lexington Realty Trust	LXP	Equity
Lexicon Pharmaceuticals, Inc.	LXRX	Equity
LSB Industries Inc.	LXU	Equity
LYONDELLBASELL INDUSTRIES NV	LYB	Equity
LYELL IMMUNOPHARMA, INC.	LYEL	Equity
Lyft, Inc.	LYFT	Equity
Lloyds Banking Group Plc ADR	LYG	Equity
LYRA THERAPEUTICS, INC.	LYRA	Equity
Live Nation Entertainment Inc	LYV	Equity
LEGALZOOM.COM, INC	LZ	Equity
LA-Z-BOY INC.	LZB	Equity
MACY'S, INC.	M	Equity
MASTERCARD INCORPORATED	MA	Equity
Mid-America Apartment Communities Inc.	MAA	Equity
THE MACERICH COMPANY	MAC	Equity
Merrimack Pharmaceuticals Inc	MACK	Equity
MAG Silver Corp.	MAG	Equity
Main Street Capital Corporation	MAIN	Equity
MANPOWERGROUP INC.	MAN	Equity
MANHATTAN ASSOCIATES INC.	MANH	Equity
Manchester United plc	MANU	Equity
WM Technology, Inc	MAPS	Equity
MARRIOTT INTERNATIONAL, INC.	MAR	Equity
Marathon Patent Group, Inc.	MARA	Equity
Remark Holdings, Inc.	MARK	Equity
MASCO CORP.	MAS	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Masimo Corporation	MASI	Equity
908 DEVICES INC	MASS	Equity
MATTEL, INC.	MAT	Equity
Mativ Holdings, Inc.	MATV	Equity
Matthews International Corporation	MATW	Equity
Matson, Inc.	MATX	Equity
MEDIAALPHA INC CLASS A	MAX	Equity
MAXEON SOLAR TECHNOLOGIES, LTD	MAXN	Equity
iShares Barclays MBS Bond Fund ETF	MBB	ETF
MBIA INC.	MBI	Equity
MOBILEYE GLOBAL, INC.	MBLY	Equity
Malibu Boats, Inc.	MBUU	Equity
Moelis & Company	MC	Equity
METROPOLITAN BANK HOLDING CORP.	MCB	Equity
MCDONALD'S CORPORATION	MCD	Equity
MasterCraft Boat Holdings, Inc	MCFT	Equity
iShares MSCI China ETF	MCHI	ETF
MICROCHIP TECHNOLOGY INC	MCHP	Equity
MCKESSON CORPORATION	MCK	Equity
MOODY'S CORPORATION	MCO	Equity
Seres Therapeutics, Inc.	MCRB	Equity
MONRACH CASINO & RESORT, INC	MCRI	Equity
Marcus Corporation	MCS	Equity
MISTER CAR WASH INC	MCW	Equity
Mercury General Corporation	MCY	Equity
Mednax Inc	MD	Equity
MongoDB, Inc.	MDB	Equity
M.D.C. HOLDINGS INC.	MDC	Equity
Madrigal Pharmaceuticals, Inc.	MDGL	Equity
MONDELEZ INTERNATIONAL, INC.	MDLZ	Equity
Allscripts Healthcare Solutions, Inc.	MDRX	Equity
MEDTRONIC, INC.	MDT	Equity
MDU RESOURCES GROUP INC.	MDU	Equity
MEDAVAIL HOLDINGS, INC.	MDVL	Equity
MIMEDX GROUP, INC.	MDXG	Equity
SPDR S&P MIDCAP 400	MDY	ETF
23andMe Holding Co.	ME	Equity
Medifast, Inc.	MED	Equity
Medpace Holdings, Inc	MEDP	Equity
Montrose Environmental Group, Inc	MEG	Equity
METHODE ELECTRONICS, INC.	MEI	Equity
MEI PHARMA, INC.	MEIP	Equity
Mercadolibre Inc	MELI	Equity
Methanex Corp.	MEOH	Equity
Mercer International Inc.	MERC	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Mesa Air Group Inc	MESA	Equity
Mesoblast Limited	MESO	Equity
METLIFE, INC.	MET	Equity
Meta Platforms, Inc.	META	Equity
RAMACO RESOURCES, INC.	METC	Equity
Roundhill Ball Metaverse ETF	METV	ETF
MFA Financial Inc	MFA	Equity
MANULIFE FINANCIAL CORPORATION	MFC	Equity
MidCap Financial Investment Corporation	MFIC	Equity
Medallion Financial Corporation	MFIN	Equity
Mistras Group Inc	MG	Equity
Magna International Inc.	MGA	Equity
Magic Software Enterprises Ltd	MGIC	Equity
Vanguard Mega Cap 300 Growth ETF	MGK	ETF
MGM RESORTS INTERNATIONAL	MGM	Equity
Magnite, Inc.	MGNI	Equity
MacroGenics, Inc.	MGNX	Equity
MGP Ingredients Inc.	MGPI	Equity
MEIRAGTX HOLDINGS PLC	MGTX	Equity
Magnolia Oil & Gas Corporation	MGY	Equity
MOHAWK INDUSTRIES, INC.	MHK	Equity
MAIDEN HOLDINGS LTDSHS	MHLD	Equity
M/I Homes Inc	MHO	Equity
The Middleby Corporation	MIDD	Equity
Direxionshares Daily Mid Cap Bull 3X Shares	MIDU	ETF
AIRSPAN NETWORKS HOLDINGS INC.	MIMO	Equity
Mitcham Industries, Inc.	MIND	Equity
Mirion Technologies, Inc.	MIR	Equity
MIRUM PHARMACEUTICALS, INC.	MIRM	Equity
MILESTONE PHARMACEUTICALS, INC.	MIST	Equity
Mitek Systems, Inc.	MITK	Equity
AG Mortgage Investment Trust, Inc.	MITT	Equity
MIX TELEMATICS LTD	MIXT	Equity
ETFMG Alternative Harvest ETF	MJ	ETF
MCCORMICK AND COMPANY, INC.	MKC	Equity
Markforged Holding Corporation	MKFG	Equity
Markel Corporation	MKL	Equity
MKS Instruments, Inc.	MKSI	Equity
MarketAxess Holdings Inc.	MKTX	Equity
Melco Resorts & Entertainment Limited	MLCO	Equity
MillerKnoll, Inc.	MLKN	Equity
MARTIN MARIETTA MATERIALS INC	MLM	Equity
MILESTONE SCIENTIFIC, INC	MLSS	Equity
Meta Materials Inc.	MMAT	Equity
MARSH & MCLENNAN INC	MMC	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
MARTIN MIDSTREAM PARTNERS LP	MMLP	Equity
3M COMPANY	MMM	Equity
MAGELLAN MIDSTREAM PARTNERS L.P	MMP	Equity
MAXIMUS, Inc.	MMS	Equity
Merit Medical Systems, Inc.	MMSI	Equity
MakeMyTrip Ltd	MMYT	Equity
MONDAY.COM LTD	MNDY	Equity
MANKIND CORPORATION	MNKD	Equity
MIND MEDICINE INC.	MNMD	Equity
PROG Holdings, Inc.	MNOV	Equity
Monro, Inc.	MNRO	Equity
MINISO GROUP HOLDING LTD.	MNSO	Equity
MONSTER BEVERAGE CORPORATION	MNST	Equity
Momentus Inc.	MNTS	Equity
Manitex International Inc	MNTX	Equity
ALTRIA GROUP INC.	MO	Equity
Modine Manufacturing Company	MOD	Equity
Topgolf Callaway Brands Corporation	MODG	Equity
MODEL N, INC.	MODN	Equity
MOGO INC	MOGO	Equity
Molina Healthcare Inc.	MOH	Equity
Momo Inc.	MOMO	Equity
Market Vectors Agribusiness ETF	MOO	ETF
MORPHIC HOLDINGS INC	MORF	Equity
MORNINGSSTAR INC	MORN	Equity
THE MOSAIC COMPANY	MOS	Equity
Movado Group, Inc.	MOV	Equity
MOXIAN, INC.	MOXC	Equity
MP Materials Corporation	MP	Equity
Motorcar Parts of America, Inc.	MPAA	Equity
MARATHON PETROLEUM CORPORATION	MPC	Equity
MultiPlan Corporation	MPLN	Equity
MPLX LP	MPLX	Equity
Medical Properties Trust Inc	MPW	Equity
Monolithic Power Systems Inc	MPWR	Equity
Marine Products Corporation	MPX	Equity
MARQETA, INC	MQ	Equity
MARPAI, INC.	MRAI	Equity
EVERSPIN TECHNOLOGIES, INC.	MRAM	Equity
MRC Global Inc.	MRC	Equity
Mercury Systems, Inc.	MRCY	Equity
MEREO BIOPHARMA GROUP PLC SPONSORED ADR	MREO	Equity
MARIN SOFTWARE INCORPORATED	MRIN	Equity
MERCK & COMPANY INC.	MRK	Equity
Moderna, Inc.	MRNA	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Marinus Pharmaceuticals, Inc.	MRNS	Equity
MARATHON OIL CORPORATION	MRO	Equity
Mersana Therapeutics, Inc.	MRSN	Equity
Marten Transport, Ltd.	MRTN	Equity
Mirati Therapeutics, Inc.	MRTX	Equity
MERUS N.V.	MRUS	Equity
Maravai LifeSciences Holdings, Inc.	MRVI	Equity
MARVELL TECHNOLOGY GROUP LTD.	MRVL	Equity
MORGAN STANLEY	MS	Equity
Mesabi Trust	MSB	Equity
MSCI Inc	MSCI	Equity
MICROSOFT CORPORATION	MSFT	Equity
Madison Square Garden Sports Corporation	MSGS	Equity
MOTOROLA INC (reverse split)	MSI	Equity
MSC Industrial Direct Co. Inc.	MSM	Equity
ADVISOR SHARES PURE US CANNABIS	MSOS	ETF
MICROSTRATEGY, INC	MSTR	Equity
ARCELORMITTAL	MT	Equity
METALLA ROYALTY & STREAMING LTD.	MTA	Equity
M & T BANK CORP	MTB	Equity
Match Group, Inc.	MTCH	Equity
Matador Resources Company	MTDR	Equity
MOLECULAR TEMPLATES, INC.	MTEM	Equity
MGIC INVESTMENT CORPORATION	MTG	Equity
MERITAGE HOMES CORPORATION	MTH	Equity
MATERIALISE NV	MTLS	Equity
Vail Resorts, Inc.	MTN	Equity
Matrix Service Company	MTRX	Equity
MACOM Technology Solutions Holdings, Inc.	MTSI	Equity
Matterport, Inc.	MTTR	Equity
Altria Group, Inc	MTUM	ETF
THE MANITOWOC COMPANY, INC.	MTW	Equity
MASTEC INC	MTZ	Equity
MICRON TECHNOLOGY INC.	MU	Equity
iShares S&P National AMT Free Municipal Bond Fund	MUB	ETF
Mitsubishi UFJ Financial Group, Inc.	MUFG	Equity
MULLEN AUTOMOTIVE, INC.	MULN	Equity
MURPHY OIL CORPORATION	MUR	Equity
Murphy USA Inc.	MUSA	Equity
McEwen Mining Inc.	MUX	Equity
Microvision, Inc.	MVIS	Equity
MV Oil Trust	MVO	Equity
Microvast Holdings, Inc. (MVST)	MVST	Equity
Mueller Water Products, Inc.	MWA	Equity
MagnaChip Semiconductor Corp.	MX	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Maxlinear, Inc.	MXL	Equity
MYRIAD GENETICS INC	MYGN	Equity
MYMD PHARMACEUTICALS, INC.	MYMD	Equity
PLAYSTUDIOS, Inc.	MYPS	Equity
MYR Group Inc.	MYRG	Equity
MYT NETHERLANDS PARENT BV	MYTE	Equity
N-ABLE, INC	NABL	Equity
Direxion Daily Homebuilders & Supplies Bull 3X Shares	NAIL	ETF
Northern Dynasty Minerals Ltd.	NAK	Equity
DUCKHORN PORTFOLIO, INC.	NAPA	Equity
Inari Medical, Inc	NARI	Equity
Nordic American Tankers Ltd	NAT	Equity
National Instruments Corporation	NATI	Equity
Nautilus Biotechnology, Inc.	NAUT	Equity
Navidea Biopharmaceuticals Inc.	NAVB	Equity
NAVIENT CORPORATION	NAVI	Equity
NEUROCRINE BIOSCIENCES	NBIX	Equity
NABORS INDUSTRIES LTD.	NBR	Equity
NEUBASE THERAPEUTICS INC	NBSE	Equity
NORWEGIAN CRUISE LINE HOLDINGS LTD.	NCLH	Equity
National Cinedia Inc	NCMI	Equity
nCino, Inc	NCNO	Equity
NCR CORP	NCR	Equity
The9 Limited-ADR	NCTY	Equity
Nasdaq OMX Group	NDAQ	Equity
NOODLES & COMPANY	NDLS	Equity
Nordson Corporation	NDSN	Equity
NOBLE CORPORATION	NE	Equity
NORTHEAST COMMUNITY BANCORP INC	NECB	Equity
NextEra Energy, Inc.	NEE	Equity
NEWEGG COMMERCE, INC.	NEGG	Equity
NEWMONT MINING CORPORATION	NEM	Equity
NeoGenomics, Inc.	NEO	Equity
Neogen Corp	NEOG	Equity
NEONODE INC.	NEON	Equity
NextEra Energy Partners, LP	NEP	Equity
Roundhill BITKRAFT Esports & Digital Entertainment ETF	NERD	ETF
Cloudflare, Inc.	NET	Equity
ENETI INC.	NETI	Equity
NEW PACIFIC METALS CORP	NEWP	Equity
New Relic, Inc.	NEWR	Equity
Newtek Business Services Corp	NEWT	Equity
NexTier Oilfield Solutions Inc.	NEX	Equity
NEXA RESOURCES S.A.	NEXA	Equity
NEXTDECADE CORP.	NEXT	Equity



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
New Fortress Energy Inc	NFE	Equity
National Fuel Gas Company	NFG	Equity
NEW FOUND GOLD	NFGC	Equity
NETFLIX, INC.	NFLX	Equity
NOVAGOLD RESOURCES INC (dist)	NG	Equity
NEW GOLD, INC.	NGD	Equity
National Grid PLC	NGG	Equity
NGL ENERGY PARTNERS L.P.	NGL	Equity
NGM BIOPHARMACEUTICALS, INC.	NGM	Equity
Natural Gas Services Group	NGS	Equity
Natural Grocers by Vitamin Cottage, Inc.	NGVC	Equity
National HealthCare Corporation	NHC	Equity
National Health Investors Inc.	NHI	Equity
NATURAL HEALTH TRENDS CORP.	NHTC	Equity
NightHawk Biosciences	NHWK	Equity
NISOURCE, INC	NI	Equity
iPath Dow Jones-UBS Cocoa Tot Ret Sub-IndexSM ETN	NIB	ETF
NICE Ltd.	NICE	Equity
NINE ENERGY SERVICE INC	NINE	Equity
NIO Inc.	NIO	Equity
Niu Technologies	NIU	Equity
NIKE INC.	NKE	Equity
Nikola Corporation	NKLA	Equity
NEKTAR THERAPEUTICS	NKTR	Equity
NKARTA INC	NKTX	Equity
Nautilus Inc.	NLS	Equity
Neoleukin Therapeutics, Inc. (	NLTX	Equity
ANNALY CAPITAL MANAGEMENT, INC.	NLY	Equity
Navios Maritime Holdings, Inc.	NM	Equity
New Mountain Finance Corporation	NMFC	Equity
NMI Holdings, Inc.	NMIH	Equity
Navios Maritime Partners LP	NMM	Equity
Nomura Holdings, Inc.	NMR	Equity
NEMAURA MEDICAL, INC.	NMRD	Equity
Newmark Group Inc	NMRK	Equity
NEUROONE MEDICAL TECHNOLOGIES CORPORATION	NMTC	Equity
NN, Inc.	NNBR	Equity
NANO DIMENSION LTD	NNDM	Equity
National Retail Properties, Inc.	NNN	Equity
NANO-X IMAGING LTD	NNOX	Equity
NanoViricides, Inc	NNVC	Equity
Noah Holdings, Ltd.	NOAH	Equity
NORTHROP GRUMMAN CORP	NOC	Equity
Northern Oil and Gas Inc	NOG	Equity
NOKIA CORPORATION	NOK	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Nomad Foods Limited	NOMD	Equity
INOTIV, INC.	NOTV	Equity
NOV, Inc.	NOV	Equity
Sunnova Energy International Inc	NOVA	Equity
NOVAN, INC.	NOVN	Equity
Novanta Inc.	NOVT	Equity
ServiceNow Inc.	NOW	Equity
EnPro Industries Inc	NPO	Equity
Newpark Resources, Inc.	NR	Equity
NERDWALLET, INC	NRDS	Equity
Nerdy Inc.	NRDY	Equity
NRG ENERGY, INC.	NRG	Equity
Energy Vault Holdings, Inc	NRGV	Equity
NURIX THERAPEUTICS, INC.	NRIX	Equity
Natural Resource Partners L.P.	NRP	Equity
NRX PHARMACEUTICALS, INC	NRXP	Equity
NuStar Energy LP	NS	Equity
National Storage Affiliates	NSA	Equity
NORFOLK SOUTHERN CORPORATION	NSC	Equity
Insperty, Inc.	NSP	Equity
INSPIREMD, INC.	NSPR	Equity
Napco Security Technologies, Inc.	NSSC	Equity
NanoString Technologies, Inc.	NSTG	Equity
NETAPP, INC.	NTAP	Equity
THE BANK OF N.T. BUTTERFIELD & SON LIMITED	NTB	Equity
NetScout Systems, Inc.	NTCT	Equity
NETEASE, INC.	NTES	Equity
NETGEAR INC	NTGR	Equity
Intellia Therapeutics Inc.	NTLA	Equity
Nutanix, Inc.	NTNX	Equity
Nutrien Ltd.	NTR	Equity
Natera, Inc	NTRA	Equity
NORTHERN TRUST CORPORATIO	NTRS	Equity
NetSol Technologies, Inc.	NTWK	Equity
NU HOLDINGS LTD.	NU	Equity
NUCOR CORPORATION	NUE	Equity
DIREXION DAILY GOLD MINERS BULL 3X SHRS	NUGT	ETF
NU SKIN ENTERPRISES INC.	NUS	Equity
NuVasive, Inc.	NUVA	Equity
NUVATION BIO INC COM CL A	NUVB	Equity
NOVAVAX, INC	NVAX	Equity
NovoCure Limited	NVCR	Equity
NVIDIA CORPORATION	NVDA	Equity
AXS 1.25X NVDA BEAR DAILY ETF	NVDS	ETF
NV5 Global Inc.	NVEE	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
NUVEI CORPORATION	NVEI	Equity
NAVIGATOR HOLDINGS LTD.	NVGS	Equity
Nova Measuring Instruments Ltd.	NVMI	Equity
enVVeno Medical Corporation	NVNO	Equity
Novo Nordisk	NVO	Equity
Nevro Corp.	NVRO	Equity
ALCON INC (Merger)	NVS	Equity
Envista Holdings Corp	NVST	Equity
nVent Electric plc	NVT	Equity
Invitae Corporation	NVTA	Equity
NAVITAS SEMICONDUCTOR CORPORATION	NVTS	Equity
NUVVE HOLDING CORP.	NVVE	Equity
Northwest Bancshares Inc	NWBI	Equity
NatWest Group plc	NWG	Equity
NEWELL RUBBERMAID, INC.	NWL	Equity
Northwest Pipe Company	NWPX	Equity
News Corporation	NWS	Equity
NEWS CORPORATION	NWSA	Equity
Quanex Building Products Corporation	NX	Equity
NEXGEN ENERGY LTNEXGEN ENERGY LTD.D.	NXE	Equity
NextGen Healthcare, Inc.	NXGN	Equity
NXP Semiconductors NV	NXPI	Equity
NEXSTAR BROADCASTING GROUP, INC.	NXST	Equity
NEXTRACKER INC.	NXT	Equity
NextCure, Inc	NXTC	Equity
NEW YORK COMM. BANCORP	NYCB	Equity
New York Mortgage Trust, Inc.	NYMT	Equity
Nymox Pharmaceutical Corporation	NYMX	Equity
NEW YORK TIMES COMPANY	NYT	Equity
Realty Income Corporation	O	Equity
OUTOUTBRAIN INCBRAIN INC	OB	Equity
OBSIDIAN ENERGY LTD	OBE	Equity
OWENS CORNING INC.	OC	Equity
Oceanfirst Financial Corp.	OCFC	Equity
ONECONNECT FINANCIAL TECHNOLOGY CO LTD	OCFT	Equity
ORIENTAL CULTURE HOLDING LTD	OCG	Equity
OCUGEN INC	OCGN	Equity
OCWEN FINANCIAL CORPORATION	OCN	Equity
Oaktree Specialty Lending Corporation	OCSL	Equity
Ocular Therapeutix, Inc.	OCUL	Equity
OCUPHIRE PHARMA, INC.	OCUP	Equity
ONCOCYTE CORP	OCX	Equity
Old Dominion Freight Line (150 shares)	ODFL	Equity
The ODP Corporation	ODP	Equity
Orion Engineered Carbons S.A.	OEC	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
ISHARES S&P 100 ETF	OEF	ETF
Orion Energy Systems, Inc	OESX	Equity
Corporate Office Properties Trust	OFC	Equity
OFG BANNCORP	OFG	Equity
OGE ENERGY CORP.	OGE	Equity
OrganiGram Holdings Inc	OGI	Equity
OSHARES GLOBAL INTERNET GIANTS ETF	OGIG	ETF
ORGANON & CO.	OGN	Equity
OMEGA Healthcare Investors, Inc.	OHI	Equity
OWENS-ILLINOIS INC.	OI	Equity
MARKET VECTORS OIL SERVICES ETF	OIH	ETF
OCEANEERING INTERNATIONAL, INC	OII	Equity
IPATH PURE BETA CRUDE OIL ETN	OIL	ETF
Oil States International, Inc.	OIS	Equity
ONEOK, INC.	OKE	Equity
Okta, Inc.	OKTA	Equity
CAMBRIDGE DISPLAY TECHNOLOGY INC.	OLED	Equity
OLINK HOLDING	OLK	Equity
Ollie's Bargain Outlet Holdings, Inc.	OLLI	Equity
Aurora Innovation, Inc.	OLMA	Equity
OLIN CORP.	OLN	Equity
OLO, INC.	OLO	Equity
OLAPLEX HOLDINGS INC	OLPX	Equity
OUTSET MEDICAL, INC.	OM	Equity
GRUPO AEROPORTUARIO DEL CENTRO NORTE SAB DE CV	OMAB	Equity
OMNICOM GROUP	OMC	Equity
OMNICELL, INC	OMCL	Equity
Omeros Corporation	OMER	Equity
Odyssey Marine Exploration Inc.	OMEX	Equity
OneMain Holdings, Inc.	OMF	Equity
OWENS & MINOR, INC	OMI	Equity
ON Semiconductor Corporation	ON	Equity
Old National Bancorp	ONB	Equity
ONCORUS, INC.	ONCR	Equity
ONCTERNAL THERAPEUTICS, INC.	ONCT	Equity
ONDAS HOLDINGS, INC.	ONDS	Equity
FIDELITY NASDAQ COMPOSITE INDEX ETF	ONEQ	ETF
ONEWATER MARINE INC	ONEW	Equity
ORION OFFICE REIT INC	ONL	Equity
PROSHARES ONLINE RETAIL ETF	ONLN	ETF
ON HOLDING AG	ONON	Equity
ON24, INC	ONTF	Equity
Onto Innovation Inc.	ONTO	Equity
ONCONOVA THERAPEUTICS INC.	ONTX	Equity
Ooma, Inc	OOMA	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Offerpad Solutions Inc.	OPAD	Equity
Option Care Health, Inc	OPCH	Equity
Opendoor Technologies Inc.	OPEN	Equity
OppFi Inc.	OPFI	Equity
(New) Office Properties Income Trust	OPI	Equity
OPKO HEALTH, INC.	OPK	Equity
Opera Limited	OPRA	Equity
OptimizeRx Corporation	OPRX	Equity
OCEAN POWER TECHNOLOGIES, INC.	OPTT	Equity
Oppenheimer Holdings Inc.	OPY	Equity
Osisko Gold Royalties Ltd	OR	Equity
Ormat Technologies, Inc.	ORA	Equity
Orange SA	ORAN	Equity
Orchid Island Capital, Inc.	ORC	Equity
OWL ROCK CAPITAL CORP	ORCC	Equity
ORACLE CORPORATION	ORCL	Equity
Origin Materials, Inc.	ORGN	Equity
ORGANOGENESIS HOLDINGS, INC.	ORGO	Equity
ORGENESIS INC.	ORGS	Equity
Old Republic International Corporation	ORI	Equity
ORIC PHARMACEUTICALS INC	ORIC	Equity
ORLA MINING LTD	ORLA	Equity
O'REILLY AUTOMOTIVE INC.	ORLY	Equity
Oramed Pharmaceuticals Inc.	ORMP	Equity
Orion Marine Group, Inc.	ORN	Equity
OSCAR HEALTH INC.	OSCR	Equity
Overseas Shipholding Group, Inc.	OSG	Equity
OSI Systems Inc.	OSIS	Equity
Oshkosh Corporation	OSK	Equity
OneSpan Inc.	OSPN	Equity
ONE STOP SYSTEMS, INC.	OSS	Equity
Overstock.com, Inc.	OSTK	Equity
ORASURE TECHNOLOGIES INC	OSUR	Equity
OneSpaWorld Holdings Limited	OSW	Equity
OPEN TEXT CORPORATION	OTEX	Equity
Otis Worldwide Corporation	OTIS	Equity
OATLY GROUP AB	OTLY	Equity
Ontrak, Inc.	OTRK	Equity
Ouster, Inc	OUST	Equity
OUTFRONT MEDIA INC.	OUT	Equity
Ovid Therapeutics Inc.	OVID	Equity
Ovintiv Inc.	OVV	Equity
Blue Owl Capital Inc.	OWL	Equity
Owlet, Inc.	OWLT	Equity
Oxford Industries, Inc	OXM	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Oxford Square Capital Corporation	OXSQ	Equity
OCCIDENTAL PETROLEUM CORPORATION	OXY	Equity
Bank OZK	OZK	Equity
PLAINS ALL AMERICAN PIPELINE, LP	PAA	Equity
PAN AMERICAN SILVER CORPORATION	PAAS	Equity
Pacific Biosciences of California Inc	PACB	Equity
RANPAK HOLDINGS CORP	PACK	Equity
PacWest Bancorp	PACW	Equity
Penske Automotive Group Inc	PAG	Equity
PLAINS GP HOLDINGS, L.P.	PAGP	Equity
PagSeguro Digital Ltd.	PAGS	Equity
Pampa Energía S.A.	PAM	Equity
PANGAEA LOGISTICS SOLUTIONS LTD.	PANL	Equity
Palo Alto Networks Inc	PANW	Equity
PAR Technology Corporation	PAR	Equity
Paramount Global Class B	PARA	Equity
Paramount Global Class A	PARAA	Equity
Par Pacific Holdings, Inc.	PARR	Equity
Passage Bio, Inc.	PASG	Equity
UIPATH INC	PATH	Equity
Patrick Industries, Inc.	PATK	Equity
Global X U.S. Infrastructure Development ETF	PAVE	ETF
PAVMED INC	PAVM	Equity
PATRIA INVESTMENT LTD	PAX	Equity
PAYMENTUS HOLDINGS, INC	PAY	Equity
Paycom Software, Inc.	PAYC	Equity
Payoneer Global Inc.	PAYO	Equity
PaySign, Inc.	PAYS	Equity
PAYCHEX, INC	PAYX	Equity
Prosperity Bancshares, Inc.	PB	Equity
Pembina Pipeline Corporation	PBA	Equity
PBF ENERGY INC.	PBF	Equity
PITNEY BOWES INC.	PBI	Equity
POTBELLY CORPORATION	PBPB	Equity
PETROLEO BRASILEIRO PETROBRAS SA	PBR	Equity
PERMIAN BASIN ROYALTY TRUST	PBT	Equity
POWERSHARES WILDERHILL CLEAN ENERGY	PBW	ETF
PUMA BIOTECHNOLOGY, INC.	PBYI	Equity
PACCAR INC.	PCAR	Equity
PG & E CORP	PCG	Equity
PotlatchDeltic Corporation	PCH	Equity
PROCORE TECH.	PCOR	Equity
Pacira Pharmaceuticals, Inc./DE	PCRX	Equity
PURECYCLE TECHNOLOGIES INC	PCT	Equity
Paylocity Holding Corporation	PCTY	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
VAXCYTE, INC.	PCVX	Equity
Park City Group Inc.	PCYG	Equity
PagerDuty, Inc.	PD	Equity
INVESCO OPTIMUM YIELD DIVER STRATEGY NO K-1 ETF	PDBC	ETF
PDC Energy Inc.	PDCE	Equity
Patterson Companies, Inc.	PDCO	Equity
Pinduoduo Inc.	PDD	Equity
PDF Solutions Inc	PDFS	Equity
Piedmont Office Realty Trust Inc.	PDM	Equity
Precision Drilling Corporation	PDS	Equity
PDS BIOTECHNOLOGY CORP.	PDSB	Equity
Healthpeak Properties, Inc.	PEAK	Equity
Pebblebrook Hotel Trust	PEB	Equity
PHILLIPS EDISON & COMPANY, INC.	PECO	Equity
PUBLIC SERVICE ENT GROUP INC	PEG	Equity
Pegasystems, Inc.	PEGA	Equity
INVESCO DYNAMIC LEISURE & ENTERTAINMENT ETF	PEJ	ETF
Penumbra, Inc	PEN	Equity
PENN NATIONAL GAMING INC	PENN	Equity
PEPSICO, INC.	PEP	Equity
Perion Network Ltd.	PERI	Equity
Perma-Fix Environmental Services, Inc.	PESI	Equity
PetIQ, Inc	PETQ	Equity
PETMED EXPRESS, INC.	PETS	Equity
Invesco High Yield Equity Dividend Achievers ETF	PEY	ETF
PFIZER INC.	PFE	Equity
iShares US Preferred Stock	PFF	ETF
GLOBAL X U.S. PREFERRED ETF	PFFD	ETF
PRINCIPAL FINANCIAL GROUP, INC.	PFG	Equity
Performance Food Group Company	PFGC	Equity
Performant Financial Corporation	PFMT	Equity
PROVIDENT FINANCIAL SERVICES, INC	PFS	Equity
PennyMac Financial Services, Inc.	PFSI	Equity
PFSweb Inc.	PFSW	Equity
PROCTER & GAMBLE COMPANY	PG	Equity
Precigen, Inc.	PGEN	Equity
PowerShares Financial Preferred ETF	PGF	ETF
PowerShares Golden Dragon China Portfolio	PGJ	ETF
Progyny Inc	PGNY	Equity
PROGRESSIVE CORPORATION	PGR	Equity
Paramount Group Inc.	PGRE	Equity
PropertyGuru Group Limited	PGRU	Equity
PGT, Inc.	PGTI	Equity
PAGAYA TECHNOLOGIES LTD	PGY	Equity
PARKER-HANNIFIN CORP	PH	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
PHATHOM PHARMACEUTICALS, INC.	PHAT	Equity
Koninklijke Philips N.V	PHG	Equity
PULTEGROUP, INC.	PHM	Equity
Invesco Water Resources ETF	PHO	ETF
PHREESIA, INC.	PHR	Equity
PHUNWARE, INC.	PHUN	Equity
PANHANDLE OIL AND GAS, INC.	PHX	Equity
Impinj, Inc.	PI	Equity
iShares MSCI Global Metals & Mining Producers ETF	PICK	ETF
POLARIS INDUSTRIES, INC.	PII	Equity
Premier Inc	PINC	Equity
Pinterest, Inc.	PINS	Equity
Piper Sandler Companies	PIPR	Equity
Pieris Pharmaceuticals Inc.	PIRS	Equity
PJT Partners Inc.	PJT	Equity
Park Hotels & Resorts Inc.	PK	Equity
PACKAGING CORP OF AMERICA	PKG	Equity
POSCO	PKX	Equity
Planet Labs PBC	PL	Equity
Photronics Inc.	PLAB	Equity
Dave & Buster's Entertainment, Inc.	PLAY	Equity
PLBY GROUP, INC.	PLBY	Equity
CHILDREN'S PLACE RETAIL	PLCE	Equity
PROLOGIS INC.	PLD	Equity
PLATINUM GROUP METALS LTD.	PLG	Equity
PIEDMONT LITHIUM LTD	PLL	Equity
Palomar Holdings, Inc	PLMR	Equity
Planet Fitness, Inc.	PLNT	Equity
Douglas Dynamics, Inc.	PLOW	Equity
PLIANT THERAPEUTICS, INC.	PLRX	Equity
Pulse Biosciences, Inc.	PLSE	Equity
PLAYTIKA HOLDING CORP.	PLTK	Equity
Palantir Technologies Inc.	PLTR	Equity
PLUG POWER INC	PLUG	Equity
Pluri Inc.	PLUR	Equity
Protalix BioTherapeutics Inc.	PLX	Equity
Playa Hotels & Resorts N.V.	PLYA	Equity
PHILIP MORRIS INTERNATIONAL, INC.	PM	Equity
PHARMACYTE BIOTECH, INC.	PMCB	Equity
Pennymac Mortgage Investment Trust	PMT	Equity
PMV PHARMACEUTICALS, INC.	PMVP	Equity
PNC FINANCIAL SERVICES GROUP INC.	PNC	Equity
Pinnacle Financial Partners, Inc.	PNFP	Equity
PNM Resources, Inc	PNM	Equity
PennantPark Investment Corp	PNNT	Equity



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Pentair plc	PNR	Equity
The Pennant Group, Inc	PNTG	Equity
Pinnacle West Capital Corporation	PNW	Equity
Insulet Corporation	PODD	Equity
Polished.com Inc.	POL	Equity
Pool Corporation	POOL	Equity
PORTLAND GENERAL ELECTRIC COMPANY	POR	Equity
Post Holdings, Inc.	POST	Equity
GLOBAL X CANNABIS ETF	POTX	ETF
Power Integrations Inc	POWI	Equity
AMMO INC	POWW	Equity
Purple Biotech Ltd.	PPBT	Equity
PILGRIMS PRIDE CORP	PPC	Equity
PPG INDUSTRIES INC.	PPG	Equity
Market Vectors Pharmaceutical ETF	PPH	ETF
PPL CORPORATION	PPL	Equity
PERPETUA RESOURCES CORP.	PPTA	Equity
Permian Resources Corporation	PR	Equity
PRA GROUP, INC.	PRAA	Equity
PRAXIS PRECISION MEDICINES, INC.	PRAX	Equity
PORCH GROUP, INC.	PRCH	Equity
PROCEPT BIROBOTICS CORP.	PRCT	Equity
Perdoceo Education Corporation	PRDO	Equity
Perficient, Inc.	PRFT	Equity
PROG Holdings, Inc.	PRG	Equity
PERRIGO COMPANY	PRGO	Equity
Progress Software Corporation	PRGS	Equity
Primerica, Inc.	PRI	Equity
Primoris Services Corporation	PRIM	Equity
Proto Labs Inc	PRLB	Equity
PRELUDE THERAPEUTICS, INC.	PRLD	Equity
Primo Water Corp.	PRMW	Equity
Pros Holdings Inc	PRO	Equity
PROFOUND MEDICAL CORP	PROF	Equity
PROPHASE LABS, INC	PRPH	Equity
Purple Innovation, Inc.	PRPL	Equity
PRECIPIO INC	PRPO	Equity
Proqr Therapeutics N.V.	PRQR	Equity
Peraso, Inc.	PRSO	Equity
PROTHENA CORPORATION PLC	PRTA	Equity
Paratek Pharmaceuticals, Inc.	PRTK	Equity
CarParts.com, Inc	PRTS	Equity
PRUDENTIAL FINANCIAL, INC.	PRU	Equity
PRIVIA HEALTH GROUP INC	PRVA	Equity
Public Storage	PSA	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
INVESCO S&P SMALLCAP ENERGY ETF	PSCE	ETF
Prospect Captial Corporation	PSEC	Equity
Paysafe Limited	PSFE	Equity
PriceSmart, Inc.	PSMT	Equity
Parsons Corporation	PSN	Equity
PERSONALIS, INC.	PSNL	Equity
Polestar Automotive Holding UK PLC	PSNY	Equity
Pearson plc	PSO	Equity
ProShares Short QQQ	PSQ	ETF
ProShares UltraShort 7-10 Year Treasury	PST	ETF
Pure Storage, Inc.	PSTG	Equity
POSEIDA THERAPEUTICS, INC.	PSTX	Equity
PHILLIPS 66	PSX	Equity
PTC Inc.	PTC	Equity
PTC Therapeutics, Inc.	PTCT	Equity
PATTERSON-UTI ENERGY INC.	PTEN	Equity
PROTAGONIST THERAPEUTICS, INC.	PTGX	Equity
PORTILLOS INC	PTLO	Equity
Portman Ridge Finance Corporation	PTMN	Equity
Peloton Interactive, Inc.	PTON	Equity
Proterra Inc	PTRA	Equity
PUBMATIC INC	PUBM	Equity
ProPetro Holding Corp.	PUMP	Equity
PROVIDENT BANCORP INC	PVBC	Equity
PVH Corp.	PVH	Equity
Permianville Royalty Trust	PVL	Equity
PowerFleet, Inc	PWFL	Equity
Perella Weinberg Partners	PWP	Equity
QUANTA SERVICES, INC.	PWR	Equity
POWERSCHOOL HOLDINGS INC	PWSC	Equity
PIONEER NATURAL RESOURCES COMPANY	PXD	Equity
Invesco Dynamic Oil & Gas Services ETF	PXJ	ETF
PIXELWORKS, INC.	PXLW	Equity
PAYCOR HCM, INC.	PYCR	Equity
POLYPID LTD.	PYPD	Equity
PayPal Holdings, Inc.	PYPL	Equity
PYROGENESIS CANADA, INC.	PYR	Equity
Papa John's International, Inc.	PZZA	Equity
D-WAVE QUANTUM INC.	QBTS	Equity
FIRST TRUST NASDAQ CLEAN EDGE GREEN	QCLN	Equity
QUALCOMM INCORPORATED	QCOM	Equity
Qudian, Inc.	QD	Equity
QUIDEL CORPORATION	QDEL	Equity
360 DIGITECH, INC.	QFIN	Equity
QIAGEN N V	QGEN	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
PROSHARES ULTRASHORT QQQ	QID	ETF
PROSHARES ULTRA QQQ	QLD	ETF
QUALYS, INC.	QLYS	Equity
QUANTUM CORPORATION	QMCO	Equity
Quince Therapeutics, Inc	QNCX	Equity
Quinstreet, Inc.	QNST	Equity
INVESCO QQQ Trust	QQQ	ETF
Direxion NASDAQ-100 Equal Weighted Index Shares	QQQE	ETF
INVESCO NASDAQ NEXT GEN 100 ETF	QQQJ	Equity
QUEST RESOURCE HOLDING CORPORATION	QRHC	Equity
Qurate Retail, Inc.	QRTEA	Equity
Qorvo, Inc.	QRVO	Equity
QuantumScape Corporation	QS	Equity
Quantum-Si Incorporated	QSI	Equity
Restaurant Brands International Inc.	QSR	Equity
QUANTERIX CORPORATION	QTRX	Equity
Q2 Holdings, Inc.	QTWO	Equity
Quad/Graphics, Inc.	QUAD	Equity
iShares MSCI USA Quality Factor ETF	QUAL	ETF
QUANTUM COMPUTING INC.	QUBT	Equity
QuickLogic Corporation	QUIK	Equity
Quotient Technology Inc.	QUOT	Equity
uniQure N.V.	QURE	Equity
GLOBAL X NASDAQ 100 COVERED CALL ETF	QYLD	ETF
RYDER SYSTEMS INC.	R	Equity
Ferrari N.V.	RACE	Equity
RITE AID CORPORATION	RAD	Equity
RADIUS GLOBAL INFRASTRUCTURE INC	RADI	Equity
Freight Car America Inc	RAIL	Equity
Rain Oncology Inc.	RAIN	Equity
LiveRamp Holdings, Inc.	RAMP	Equity
RAPT THERAPEUTICS, INC.	RAPT	Equity
Ultragenyx Pharmaceutical Inc.	RARE	Equity
Ritchie Bros. Auctioneers Incorporated	RBA	Equity
Ribbon Communications Inc	RBBN	Equity
Roblox Corporation	RBLX	Equity
Vicarious Surgical Inc.	RBOT	Equity
Rubicon Technologies, Inc.	RBT	Equity
Ready Capital Corporation	RC	Equity
RED CAT HOLDINGS, INC.	RCAT	Equity
Avita Therapeutics, Inc.	RCEL	Equity
Rogers Communication, Inc.	RCI	Equity
Rocket Pharmaceuticals, Inc.	RCKT	Equity
ROYAL CARIBBEAN CRUISES LTD.	RCL	Equity
R1 RCM Inc	RCM	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
RCM Technologies, Inc.	RCMT	Equity
RECON TECHNOLOGY LTD.	RCON	Equity
Arcus Biosciences, Inc.	RCUS	Equity
Redfin Corporation	RDFN	Equity
Reading International Inc	RDI	Equity
RADIAN GROUP INC.	RDN	Equity
RadNet, Inc.	RDNT	Equity
Redwire Corporation	RDW	Equity
RADWARE LTD.	RDWR	Equity
Dr. Reddy's Laboratories Limited	RDY	Equity
EVEREST RE GROUP LTD	RE	Equity
RealReal Inc	REAL	Equity
REE Automotive Ltd.	REE	Equity
iShares Global REIT ETF	REET	ETF
Research Frontiers Inc.	REFR	Equity
REGENCY CENTERS CORP	REG	Equity
REGENERON PHARMACEUTICALS	REGN	Equity
Ring Energy, Inc.	REI	Equity
ProShares Short Real Estate	REK	ETF
REKOR SYSTEMS, INC.	REKR	Equity
Richardson Electronics Ltd	RELL	Equity
REMITLY GLOBAL, INC	RELY	Equity
ISHARES MORTGAGE REAL ESTATE ETF	REM	ETF
Market Vectors Rare Earth/Strategic Metals ETF	REMX	ETF
RENT THE RUNWAY, INC.	RENT	Equity
REPLIMUNE GROUP, INC.	REPL	Equity
RPC INC	RES	Equity
Reata Pharmaceuticals Inc	RETA	Equity
Direxion Daily Retail Bull 3X Shares	RETL	ETF
REV Group, Inc.	REVG	Equity
Rexford Industrial Realty, Inc.	REXR	Equity
REYNOLDS CONSUMER PRODUCTS	REYN	Equity
Resideo Technologies Inc	REZI	Equity
REGIONS FINANCIAL CORPORATION	RF	Equity
RF Industries, Ltd.	RFIL	Equity
RAFAEL HOLDINGS, INC.	RFL	Equity
Reinsurance Group of America Inc	RGA	Equity
Repligen Corporation	RGEN	Equity
ROYAL GOLD, INC.	RGLD	Equity
REGULUS THERAPEUTICS INC.	RGLS	Equity
REGENXBIO Inc.	RGNX	Equity
Resources Connection, Inc.	RGP	Equity
STURM, RUGER & COMPANY INC.	RGR	Equity
REGIS CORP.	RGS	Equity
Rigetti Computing, Inc	RGTI	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
RESTORATION HARDWARE HOLDINGS, INC	RH	Equity
ROBERT HALF INTERNATIONAL	RHI	Equity
Ryman Hospitality Properties, Inc.(Stk Div)	RHP	Equity
RCI HOSPITALITY HOLDINGS, INC.	RICK	Equity
Lordstown Motors Corporation	RIDE	Equity
TRANSOCEAN LTD.	RIG	Equity
Rigel Pharmaceuticals, Inc.	RIGL	Equity
B Riley Financial Inc	RILY	Equity
RIO TINTO PLC	RIO	Equity
Riot Blockchain, Inc.	RIOT	Equity
Rithm Capital Corporation	RITM	Equity
Rivian Automotive, Inc.	RIVN	Equity
RAYMOND JAMES FINANCIAL INC	RJF	Equity
Rocket Lab USA, Inc.	RKLB	Equity
Rocket Companies, Inc.	RKT	Equity
RALPH LAUREN CORPORATION	RL	Equity
RELAY THERAPEUTICS INC	RLAY	Equity
Radiant Logistics, Inc.	RLGT	Equity
RLI Corporation	RLI	Equity
RLJ Lodging Trust	RLJ	Equity
RELMADA THERAPEUTICS INC	RLMD	Equity
RLX TECHNOLOGY INC	RLX	Equity
REGIONAL MANAGEMENT CORP.	RM	Equity
RUMBLEON, INC.	RMBL	Equity
RAMBUS INC	RMBS	Equity
RESMED, INC.	RMD	Equity
RIMINI STREET, INC.	RMNI	Equity
Rockwell Medical, Inc.	RMTI	Equity
AVIDITY BIOSCIENCES INC	RNA	Equity
RINGCENTRAL, INC.	RNG	Equity
RENALYTIX AI PLC ADR	RNLX	Equity
RENAISSANCERE HOLDINGS LTD.	RNR	Equity
ReNew Energy Global plc	RNW	Equity
CONSTRUCTION PARTNERS, INC	ROAD	Equity
Ranger Oil Corporation	ROCC	Equity
ROGERS CORPORATION	ROG	Equity
Retail Opportunity Investments Corp.	ROIC	Equity
ROIVANT SCIENCES LTD	ROIV	Equity
ROCKWELL AUTOMATION	ROK	Equity
Roku, Inc.	ROKU	Equity
Rollins, Inc.	ROL	Equity
ProShares Ultra Technology	ROM	ETF
ROOT, INC. DELAWARE	ROOT	Equity
Roper Technologies, Inc.	ROP	Equity
ROSS STORES INC.	ROST	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Rover Group, Inc.	ROVR	Equity
RPAR RISK PARITY	RPAR	Equity
REPAY HOLDINGS CORP.	RPAY	Equity
Rapid7, Inc.	RPD	Equity
RPM INTERNATIONAL, INC	RPM	Equity
ROYALTY PHARMA PLC	RPRX	Equity
RPT Realty	RPT	Equity
REPARE THERAPEUTICS INC.	RPTX	Equity
RANGE RESOURCES CORPORATION	RRC	Equity
Red Robin Gourmet Burgers, Inc.	RRGB	Equity
Red Rock Resorts, Inc.	RRR	Equity
Regal Rexnord Corporation	RRX	Equity
RELIANCE STEEL & ALUMINUM CO.	RS	Equity
REPUBLIC SERVICES	RSG	Equity
Rush Street Interactive, Inc.	RSI	Equity
RISKIFIED LTD.	RSKD	Equity
Invesco S&P 500 Equal Weight ETF	RSP	ETF
Market Vectors Retail ETF	RTH	ETF
The Necessity Retail REIT, Inc.	RTL	Equity
Raytheon Technologies Corporation	RTX	Equity
Rumble Inc.	RUM	Equity
Sunrun Inc.	RUN	Equity
Rush Enterprises Inc	RUSHA	Equity
Revolve Group, Inc.	RVLV	Equity
Revance Therapeutics, Inc.	RVNC	Equity
RETRACTABLE TECHNOLOGIES, INC.	RVP	Equity
REVIVA PHARMACEUTICALS HOLDINGS, INC.	RVPH	Equity
Riverview Bancorp, Inc.	RVSB	Equity
Revvity, Inc.	RVTY	Equity
Ryvyl Inc.	RVYL	Equity
RYB EDUCATION INC.	RWLK	Equity
ProShares Short Russell2000	RWM	ETF
SPDR Dow Jones REIT ETF	RWR	ETF
REDWOOD TRUST, INC.	RWT	Equity
PROMETHEUS BIOSCIENCES	RXDX	Equity
RXO, INC.	RXO	Equity
RACKSPACE TECHNOLOGY, INC.	RXT	Equity
ROYAL BANK OF CANADA	RY	Equity
Ryanair Holdings plc	RYAAY	Equity
RAYONIER ADVANCED MATERIALS INC.	RYAM	Equity
RYAN SPECIALITY GROUP	RYAN	Equity
Ryerson Holding Corporation	RYI	Equity
GLOBAL X FDS RUSSELL 2000	RYLD	ETF
Rayonier Inc.	RYN	Equity
Rhythm Pharmaceuticals, Inc	RYTM	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
SENTINELONE, INC	S	Equity
SEABRIDGE GOLD INC	SA	Equity
SABRE CORPORATION	SABR	Equity
SACHEM CAPITAL CORP.	SACH	Equity
Safehold Inc	SAFE	Equity
Safety Insurance Group Inc.	SAFT	Equity
Sage Therapeutics, Inc.	SAGE	Equity
SONIC AUTOMOTIVE,INC.	SAH	Equity
Saia, Inc.	SAIA	Equity
Science Applications International Corporation	SAIC	Equity
Boston Beer Company, Inc.	SAM	Equity
BANCO SANTANDER, S.A.	SAN	Equity
SANA BIOTECHNOLOGY INC.	SANA	Equity
Sandstorm Gold Ltd.	SAND	Equity
Sanmina Corporation	SANM	Equity
S&W SEED COMPANY	SANW	Equity
SAP AG	SAP	Equity
TUTTLE CAPITAL SHORT INNOVATION ETF	SARK	ETF
Sigma Labs, Inc.	SASI	Equity
SATELLOGIC INC	SATL	Equity
EchoStar Corp	SATS	Equity
Cassava Sciences Inc	SAVA	Equity
SPIRIT AIRLINES, INC.	SAVE	Equity
Safe Bulkers Inc.	SB	Equity
SBA COMMUNICATION CORP	SBAC	Equity
SPLASH BEVERAGE GROUP, INC.	SBEV	Equity
SINCLAIR BROADCASTING GRP	SBGI	Equity
Sally Beauty Holdings Inc	SBH	Equity
Star Bulk Carriers Corporation	SBLK	Equity
SILVERBOW RESOURCES INC	SBOW	Equity
Sabra Health Care REIT, Inc.	SBRA	Equity
Companhia de Saneamento Basico do Estado de Sao Paulo	SBS	Equity
Sibanye-Stillwater	SBSW	Equity
STARBUCKS CORPORATION	SBUX	Equity
SOUTHERN COPPER CORPORATION	SCCO	Equity
Schwab US Broad Market ETF	SCHB	ETF
Schwab US Dividend Equity ETF	SCHD	ETF
Schwab U.S. Large-Cap Growth ETF	SCHG	ETF
Scholastic Corporation	SCHL	Equity
SCHNITZER STEEL INDUSTRIES, INC	SCHN	Equity
Schwab U.S. TIPs ETF	SCHP	ETF
THE CHARLES SCHWAB CORPORATION	SCHW	Equity
SERVICE CORPORATION INTERNATIONAL	SCI	Equity
ProShare UltraShort DJ UBS Crude Oil	SCO	ETF
Comscore Inc	SCOR	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
SCPHARMACEUTICALS, INC.	SCPH	Equity
SCIPLAY CORP	SCPL	Equity
STEELCASE, INC. CLASS A	SCS	Equity
SCANSOURCE, INC.	SCSC	Equity
Societal CDMO, Inc.	SCTL	Equity
Sculptor Capital Management, Inc	SCU	Equity
Shoe Carnival Inc	SCVL	Equity
SecureWorks Corp.	SCWX	Equity
SCYNEXIS, Inc.	SCYX	Equity
iShares MSCI EAFE Small Cap Index Fund	SCZ	ETF
SandRidge Energy, Inc.	SD	Equity
SmileDirectClub, Inc.	SDC	Equity
SCHRODINGER, INC.	SDGR	Equity
Global X SuperDividend ETF	SDIV	Equity
ProShares UltraPro Short Dow30	SDOW	ETF
PROSHARES ULTRASHORT S&P500	SDS	ETF
SPDR S&P Dividend ETF	SDY	ETF
Sea Limited	SE	Equity
SEAWORLD ENTERTAINMENT, INC.	SEAS	Equity
VIVID SEATS INC	SEAT	Equity
SolarEdge Technologies, Inc.	SEDG	Equity
SEALED AIR CORP	SEE	Equity
SEELOS THERAPEUTICS, INC	SEEL	Equity
SEER, INC.	SEER	Equity
Short Financials ProShares	SEF	ETF
SEI INVESTMENTS CO	SEIC	Equity
SELECTA BIOSCIENCES, INC.	SELB	Equity
Select Medical Holdings Corporation	SEM	Equity
SEMRUSH HOLDINGS, INC.	SEMR	Equity
Senseonics Holdings Inc.	SENS	Equity
SES AI Corporation	SES	Equity
SONO GROUP N.V.	SEV	Equity
Stifel Financial Corp.	SF	Equity
Safeguard Scientifics, Inc.	SFE	Equity
Stitch Fix, Inc.	SFIX	Equity
SHIP FINANCE INTERNATIONAL LIMITED	SFL	Equity
SPROUTS FARMERS MARKET, INC.	SFM	Equity
SWEETGREEN, INC.	SG	Equity
SG BLOCKS, INC.	SGBX	Equity
Superior Group of Companies, Inc.	SGC	Equity
Seagen Inc.	SGEN	Equity
SMART Global Holdings, Inc.	SGH	Equity
Super Group	SGHC	Equity
Singularity Future Technology Ltd.	SGLY	Equity
SIGMA LITHIUM CORP	SGML	Equity



MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
Sangamo Therapeutics, Inc.	SGMO	Equity
ETFS Physical Swiss Gold Shares ETF	SGOL	ETF
Surgery Partners Inc.	SGRY	Equity
ProShares Short S&P 500	SH	ETF
Shake Shack Inc.	SHAK	Equity
SOTERA HEALTH COMPANY	SHC	Equity
Soho House & Co Inc.	SHCO	Equity
Sharecare, Inc.	SHCR	Equity
Shell plc	SHEL	Equity
SHENANDOAH TELECOMMUNICATIONS CO	SHEN	Equity
SHOALS TECHNOLOGIES GROUP	SHLS	Equity
Sunstone Hotel Investors, Inc.	SHO	Equity
STEVEN MADDEN, LTD.	SHOO	Equity
Shopify Inc.	SHOP	Equity
SHAPEWAYS HOLDINGS, INC.	SHPW	Equity
THE SHERWIN-WILLIAMS COMPANY	SHW	Equity
Ishares Barclays 1-3 Year Treasury Bond	SHY	ETF
The Shyft Group, Inc.	SHYF	Equity
SI-BONE, INC.	SIBN	Equity
COMPANHIA SIDERURGICAL NACIONAL ADR	SID	Equity
Siebert Financial Corp	SIEB	Equity
Sientra, Inc.	SIEN	Equity
Sify Technologies Ltd.	SIFY	Equity
SIGNET JEWELERS LIMITEDSHS	SIG	Equity
SIGA Technologies Inc.	SIGA	Equity
Sprott Inc	SII	Equity
Global X Silver Miners ETF	SIL	ETF
ETFMG Prime Junior Silver ETF	SILJ	ETF
SILK ROAD MEDICAL, INC.	SILK	Equity
SilverCrest Metals Inc.	SILV	Equity
Silicon Motion Technology Corp.	SIMO	Equity
SIRIUS XM RADIO INC.	SIRI	Equity
SITE Centers Corporation	SITC	Equity
SITIME CORP	SITM	Equity
ETFS Physical Silver	SIVR	ETF
Six Flags Entertainment Corporation	SIX	Equity
J M SMUCKER COMPANY (THE)	SJM	Equity
SPDR Barclays Short Term High Yield Bond ETF	SJNK	ETF
San Juan Basin Royalty Trust	SJT	Equity
ProShares UltraShort Financials	SKF	ETF
Skillsoft Corporation	SKIL	Equity
The Beauty Health Company	SKIN	Equity
Skillz Inc.	SKLZ	Equity
SK TELECOM CO. LTD	SKM	Equity
Tanger Factory Outlet Centers, Inc.	SKT	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
SKETCHERS USA INCORPORATED	SKX	Equity
Skyline Champion Corporation	SKY	Equity
SKYWATER TECHNOLOGY INC	SKYT	Equity
SkyWest Inc.	SKYW	Equity
SKYX Platforms Corporation	SKYX	Equity
First Trust ISE Cloud Computing Index Fund	SKYY	ETF
SILICON LABORATORIES INC.	SLAB	Equity
SCHLUMBERGER LIMITED	SLB	Equity
US Silica Holdings Inc.	SLCA	Equity
Solid Power, Inc.	SLDP	Equity
SUN LIFE FINANCIAL INC.	SLF	Equity
SL Green Realty Corp.	SLG	Equity
SOMALOGIC, INC	SLGC	Equity
SUPER LEAGUE GAMING, INC.	SLGG	Equity
SOL-GEL TECHNOLOGIES LTD.	SLGL	Equity
Silgan Holdings Inc.	SLGN	Equity
STANDARD LITHIUM LTD.	SLI	Equity
SLM CORP	SLM	Equity
SOLUNA HOLDINGS, INC.	SLNH	Equity
Simulations Plus, Inc	SLP	Equity
SELECTQUOTE, INC.	SLQT	Equity
SELLAS LIFE SCIENCES GROUP, INC.	SLS	Equity
ISHARES SILVER TRUST	SLV	ETF
SYLVAMO CORPORATION	SLVM	Equity
VanEck Vectors Steel ETF	SLX	ETF
SM Energy Company	SM	Equity
Smartsheet Inc.	SMAR	Equity
SUPER MICRO COMPUTER INC	SMCI	Equity
SUMITOMO MITSUI FINANCIAL GROUP, INC.	SMFG	Equity
The Scotts Miracle-Gro Company	SMG	Equity
MARKET VECTORS SEMICONDUCTOR ETF	SMH	ETF
SEACOR MARINE HOLDINGS INC	SMHI	Equity
Summit Therapeutics Inc.	SMMT	Equity
Simply Good Foods Co	SMPL	Equity
NuScale Power Corporation	SMR	Equity
SmartRent, Inc.	SMRT	Equity
Smith Micro Software, Inc.	SMSI	Equity
SEMTECH CORPORATION	SMTC	Equity
SIMILARWEB LTD.SIMILARWEB LTD.	SMWB	Equity
SNAP-ON INCORPORATED	SNA	Equity
Snap, Inc	SNAP	Equity
Sleep Number Corporation	SNBR	Equity
Synchronoss Technologies, Inc.	SNCR	Equity
SUN COUNTRY AIRLINES HOLDINGS, INC.	SNCY	Equity
Smart Sand, Inc.	SND	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
SNDL Inc	SNDL	Equity
Schneider National, Inc	SNDR	Equity
Syndax Pharmaceuticals, Inc	SNDX	Equity
SMITH & NEPHEW PLC	SNN	Equity
Snowflake Inc.	SNOW	Equity
Synopsys Inc.	SNPS	Equity
SYNOVUS FINANCIAL CORPORATION	SNV	Equity
Synnex Corporation	SNX	Equity
Sanofi	SNY	Equity
SOUTHERN COMPANY	SO	Equity
GLOBAL X SOCIAL MEDIA INDEX ETF	SOCL	ETF
SoFi Technologies, Inc.	SOFI	Equity
SOHU.COM INC.	SOHU	Equity
Solaris Oilfield Infrastructure, Inc.	SOI	Equity
ReneSola Ltd (ADS)	SOL	Equity
Electrameccanica Vehicles Corp.	SOLO	Equity
Sonoco Products Co.	SON	Equity
SONDER HOLDINGS INC.	SOND	Equity
Sonos, Inc.	SONO	Equity
Sony Group Corporation	SONY	Equity
SOUNDHOUND AI, INC	SOUN	Equity
Sovos Brands, Inc.	SOVO	Equity
DIREXION DAILY SEMICONDUCTOR BULL 3X ETF	SOXL	ETF
Direxion Daily Semiconductor Bear 3X ETF	SOXS	ETF
iShares PHLX Semiconductor Index Fund	SOXX	ETF
Teucrium Soybean ETF	SOYB	ETF
SP Plus Corporation	SP	Equity
Spectrum Brands Holdings Inc.	SPB	Equity
Virgin Galactic Holdings, Inc.	SPCE	Equity
SPAC and New Issue ETF	SPCX	Equity
SIMON PROPERTY GROUP INC.	SPG	Equity
S&P Global Inc.	SPGI	Equity
Suburban Propane Partners, L.P.	SPH	Equity
Invesco S&P 500 High Beta ETF	SPHB	ETF
Invesco S&P 500 High Dividend Low Volatility ETF	SPHD	ETF
Sphere Entertainment Co.	SPHR	Equity
SPI ENERGY CO LTD	SPI	Equity
Spire Global, Inc.	SPIR	Equity
SPDR Portfolio S&P 500 ETF	SPLG	ETF
SPLUNK, INC.	SPLK	Equity
PowerShares S&P 500 Low Volatility ETF	SPLV	ETF
Sapiens International Corporation NV	SPNS	Equity
Spok Holdings, Inc.	SPOK	Equity
Spotify Technology S.A.	SPOT	Equity
SPECTRUM PHARMACEUTICALS, INC.	SPPI	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Spirit Aerosystems Holdings Inc	SPR	Equity
Spero Therapeutics Inc	SPRO	Equity
Spruce Power Holding Corporation	SPRU	Equity
ARS Pharmaceuticals, Inc.	SPRY	Equity
SPROUT SOCIAL INC	SPT	Equity
SPDR PORTFOLIO LONG TERM TREASURY ETF	SPTL	ETF
SPDR Portfolio Total Stock Market ETF	SPTM	ETF
Spartan Stores, Inc.	SPTN	Equity
Sportsman's Warehouse Holdings, Inc.	SPWH	Equity
SUNPOWER CORPORATION	SPWR	Equity
SPX Corporation	SPXC	Equity
Direxion Daily S&P 500 Bull 3X Shares	SPXL	ETF
Direxion Daily S&P 500 Bear 3X Shares (1:5 reverse	SPXS	ETF
PROSHARES ULTRAPRO SHORT S&P500	SPXU	ETF
SPDR S&P 500 TRUST	SPY	ETF
SPDR PORTFOLIO S&P 500 HIGH DIVIDEND	SPYD	ETF
SPDR PORTFOLIO S&P 500 GROWTH ETF	SPYG	ETF
SPDR PORTFOLIO S&P 500 VALUE ETF	SPYV	ETF
Square, Inc.	SQ	Equity
CHEMICAL & MINING CO. OF CHILE INC.	SQM	Equity
PROSHARES ULTRAPRO SHORT QQQ	SQQQ	ETF
Squarespace, Inc.	SQSP	Equity
SPORTRADAR GROUP	SRAD	Equity
Spirit Realty Capital, Inc.	SRC	Equity
STERICYCLE, INC.	SRCL	Equity
Surmodics, Inc.	SRDX	Equity
SEMPRA ENERGY	SRE	Equity
Seritage Growth Properties	SRG	Equity
Stoneridge, Inc.	SRI	Equity
SPDR Blackstone Senior Loan ETF	SRLN	ETF
SAREPTA THERAPEUTICS, INC.	SRPT	Equity
SCHOLAR ROCK HOLDING CORP.	SRRK	Equity
ProShares UltraShort Real Estate	SRS	ETF
SENSUS HEALTHCARE, INC	SRTS	Equity
ProShares UltraPro Short Russell2000	SRTY	ETF
South State Corporation	SSB	Equity
Simpson Manufacturing Co., Inc.	SSD	Equity
SS&C Technologies Holdings, Inc.	SSNC	Equity
PROSHARES ULTRA S&P500	SSO	ETF
The E.W. Scripps Company	SSP	Equity
SSR Mining Inc.	SSRM	Equity
Sutter Rock Capital Corporation	SSSS	Equity
System1, Inc	SST	Equity
SoundThinking, Inc.	SSTI	Equity
SHUTTERSTOCK, INC.	SSTK	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
STRATASYS INC.	SSYS	Equity
Sensata Technologies Holding	ST	Equity
STAAR SURGICAL COMPANY	STAA	Equity
STAG Industrial, Inc.	STAG	Equity
STERIS Corp.	STE	Equity
Stem, Inc.	STEM	Equity
STEPSTONE GROUP INC	STEP	Equity
Stagwell Inc.	STGW	Equity
NEURONETICS, INC.	STIM	Equity
SunOpta Inc.	STKL	Equity
ONE GROUP HOSPITALITY, INC.	STKS	Equity
Stellantis N.V.	STLA	Equity
STEEL DYNAMICS INC	STLD	Equity
STMicroelectronics NV	STM	Equity
StoneCo Ltd.	STNE	Equity
SCORPIO TANKERS, INC.	STNG	Equity
STOKE THERAPEUTICS, INC.	STOK	Equity
Sitio Royalties Corporation	STR	Equity
STRAYER EDUCATION, INC.	STRA	Equity
Sterling Construction Company Inc.	STRL	Equity
SUTRO BIOPHARMA, INC.	STRO	Equity
SATSUMA PHARMACEUTICALS, INC.	STSA	Equity
STATE STREET CORPORATION	STT	Equity
Starwood Property Trust, Inc.	STWD	Equity
SEAGATE TECHNOLOGY PUBLIC LIMITED COMPANY	STX	Equity
STEREOTAXIS, INC.	STXS	Equity
CONSTELLATION BRANDS INC.	STZ	Equity
SUNCOR ENERGY INC.	SU	Equity
Sun Communities, Inc.	SUI	Equity
Summit Materials, Inc.	SUM	Equity
SUNOCO L.P.	SUN	Equity
Sunlight Financial Holdings, Inc	SUNL	Equity
SUNWORKS, INC.	SUNW	Equity
SUPERIOR INDUSTRIES INT	SUP	Equity
SUPERNUS PHARMACEUTICALS, INC.	SUPN	Equity
GRUPO SUPERVIELLE SA	SUPV	Equity
SURFACE ONCOLOGY, INC.	SURF	Equity
SURGEPAYS INC	SURG	Equity
Service Properties Trust	SVC	Equity
-1X SHORT VIX FUTURES ETF	SVIX	ETF
SILVERCORP METALS INC	SVM	Equity
Savara Inc.	SVRA	Equity
ProShares Short VIX Short-Term Futures	SVXY	ETF
SHOCKWAVE MEDICAL INC.	SWAV	Equity
Smith & Wesson Brands, Inc. (SWBI)	SWBI	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Solarwinds Corp.	SWI	Equity
LATHAM GROUP INC	SWIM	Equity
Stanley Black & Decker	SWK	Equity
SKYWORKS SOLUTIONS INC.	SWKS	Equity
SOUTHWESTERN ENERGY COMPANY	SWN	Equity
SPRINGWORKS THERAPEUTICS INC	SWTX	Equity
SunCoke Energy, Inc.	SXC	Equity
SO-YOUNG INTERNATIONAL, INC.	SY	Equity
SYNLOGIC INC	SYBX	Equity
SYNCHRONY FINANCIAL	SYF	Equity
STRYKER CORP	SYK	Equity
SYMBOTIC INC	SYM	Equity
SYNAPTICS, INC.	SYNA	Equity
Syneos Health, Inc.	SYNH	Equity
SYPRIS SOLUTIONS, INC.	SYPR	Equity
SYSCO CORPORATION	SYI	Equity
AT&T, INC.	T	Equity
TRANSALTA CORP	TAC	Equity
CAMBRIA TAIL RISK ETF	TAIL	ETF
Takeda Pharmaceutical Company Limited	TAK	Equity
TAL International Group Inc	TAL	Equity
Talkspace, Inc.	TALK	Equity
Talos Energy Inc.	TALO	Equity
Guggenheim Solar ETF	TAN	ETF
Molson Coors Brewing Co.	TAP	Equity
PROTARA THERAPEUTICS, INC.	TARA	Equity
AXS 2X INNOVATION ETF	TARK	ETF
TARSUS PHARMACEUTICALS, INC.	TARS	Equity
TASKUS, INC.	TASK	Equity
Carrols Restaurant Group Inc	TAST	Equity
Bancorp Inc/DE	TBBK	Equity
ProShares Short 20+ Year Treasury	TBF	ETF
TrueBlue, Inc.	TBI	Equity
Taboola.com Ltd.	TBLA	Equity
Territorial Bancorp Inc.	TBNK	Equity
Theravance Biopharma, Inc.	TBPH	Equity
PROSHARES ULTRASHORT 20+ YEAR TREASURY	TBT	ETF
Texas Capital Bancshares, Inc.	TCBI	Equity
Tactile Systems Technology I	TCMD	Equity
TRICON RESIDENTIAL INC	TCN	Equity
Trip.com Group Limited	TCOM	Equity
TRACON PHARMACEUTICALS, INC.	TCON	Equity
Alaunos Therapeutics, Inc.	TCRT	Equity
THE CONTAINER STORE GROUP, INC.	TCS	Equity
TUCOWS, INC	TCX	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
TORONTO DOMINION BANK	TD	Equity
Teradata Corp.	TDC	Equity
TransDigm Group, Inc.	TDG	Equity
Teladoc, Inc.	TDOC	Equity
TELEPHONE & DATA SYSTEMS INC.	TDS	Equity
THREDUP INC	TDUP	Equity
TIDEWATER INC.	TDW	Equity
Teledyne Technologies Inc	TDY	Equity
Atlassian Corporation Plc	TEAM	Equity
Bio-Techne Corporation	TECH	Equity
Teck Resources Limited	TECK	Equity
Direxion Daily Technology Bull 3X ETF	TECL	ETF
Direxion Daily Technology Bear 3X ETF	TECS	ETF
TELEFONICA S.A.	TEF	Equity
TE Connectivity Ltd.	TEL	Equity
Tellurian Inc.	TELL	Equity
TENABLE HOLDINGS INC	TENB	Equity
Telecom Argentina S.A.	TEO	Equity
TERADYNE, INC	TER	Equity
TEVA PHARMACEUTICAL INDUSTRIES LIMITED	TEVA	Equity
TEREX CORPORATION	TEX	Equity
Truist Financial Corporation	TFC	Equity
TFF Pharmaceuticals, Inc	TFFP	Equity
TFI INTERNATIONAL INC.	TFII	Equity
Triumph Financial Inc	TFIN	Equity
TFS Financial Corporation	TFSL	Equity
Teleflex Incorporated	TFX	Equity
Tredegar Corp	TG	Equity
Taseko Mines Limited	TGB	Equity
Textainer Group Holdings Limited	TGH	Equity
Triumph Group, Inc.	TGI	Equity
TECNOGLASS INC.	TGLS	Equity
TEGNA, Inc.	TGNA	Equity
TARGET CORPORATION	TGT	Equity
TG THERAPEUTICS, INC.	TGTX	Equity
TARGET HOSPITALITY CORP.	TH	Equity
TENET HEALTHCARE CORP (25 shrs)	THC	Equity
TH International Limited	THCH	Equity
CANNABIS ETF	THCX	ETF
iShares MSCI Thailand ETF	THD	ETF
THOR INDUSTRIES INC	THO	Equity
Thermon Group Holdings Inc	THR	Equity
Gentherm Inc	THRM	Equity
THRYV HOLDINGS, INC.	THRY	Equity
Treehouse Foods, Inc.	THS	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
THERATECHNOLOGIES INC.	THTX	Equity
UP FINTECH HOLDINGS LIMITED	TIGR	Equity
Interface, Inc.	TILE	Equity
iShares Barclays TIPS Bond Fund	TIP	ETF
TIPTREE INC.	TIPT	Equity
Titan Machinery, Inc.	TITN	Equity
THE TJX COMPANIES, INC.	TJX	Equity
Teekay Corp	TK	Equity
TAKUNG ART LTD	TKAT	Equity
Turkcell Iletisim Hizmetleri AS	TKC	Equity
TIMKEN COMPANY	TKR	Equity
iShares 10-20 Year Treasury Bond ETF	TLH	ETF
TALIS BIOMEDICAL CORP.	TLIS	Equity
Tilray, Inc.	TLRY	Equity
TELOS CORPORATION	TLS	Equity
TIZIANA LIFE SCIENCES PLC	TLSA	Equity
ISHARES 20+ YEAR TREASURY BOND ETF	TLT	ETF
Tilly's Inc.	TLYS	Equity
TOYOTA MOTOR CORP	TM	Equity
TMC the metals company Inc.	TMC	Equity
TREACE MEDICAL CONCEPTS, INC.	TMCI	Equity
TRANSMEDICS GROUP, INC.	TMDX	Equity
Tencent Music Entertainment Group	TME	Equity
DIREXION DAILY 20+ YR TRSY BULL 3X ETF	TMF	ETF
Taylor Morrison Home Corp	TMHC	Equity
Thermo Fisher Scientific Inc.	TMO	Equity
Tempo Automation Holdings, Inc.	TMPO	Equity
Trilogy Metals Inc.	TMQ	Equity
TimkenSteel Corporation	TMST	Equity
T-MOBILE US, INC.	TMUS	Equity
Direxion Daily 20 Year Treasury Bear 3X Shares	TMV	ETF
DIREXION DAILY SMALL CAP BULL 3X SHARES	TNA	ETF
Tandem Diabetes Care, Inc.	TNDM	Equity
TRINET GROUP, INC.	TNET	Equity
Teekay Tankers Ltd	TNK	Equity
Travel + Leisure Co.	TNL	Equity
TSAKOS ENERGY NAVIGATION LTD	TNP	Equity
TENAYA THERAPEUTICS, INC.	TNYA	Equity
CAMBRIA CANNABIS ETF	TOKE	ETF
TOLL BROTHERS INC.	TOL	Equity
TOAST, INC	TOST	Equity
TUNIU CORPORATION	TOUR	Equity
TowneBank	TOWN	Equity
Turning Piont Brands Inc	TPB	Equity
Tutor Perini Corporation	TPC	Equity



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
TPG INC	TPG	Equity
TRI POINTE HOMES, INC.	TPH	Equity
TPI Composites Inc	TPIC	Equity
Tapestry, Inc.	TPR	Equity
TriplePoint Venture Growth BDC Corp.	TPVG	Equity
TEMPUR-PEDIC INTERNATIONAL INC.	TPX	Equity
ProShares Ultra Pro QQQ	TQQQ	ETF
Tootsie Roll Industries Inc	TR	Equity
LendingTree, Inc.	TREE	Equity
Trex Co. Inc.	TREX	Equity
Targa Resources Corp.	TRGP	Equity
Tabula Rasa HealthCare Inc	TRHC	Equity
Thomson Reuters Corporation	TRI	Equity
Trinity Biotech plc	TRIB	Equity
TRINITY CAPITAL, INC.	TRIN	Equity
TRIPADVISOR INC.	TRIP	Equity
TRIMBLE NAVIGATION LIMITED	TRMB	Equity
TORM PLC	TRMD	Equity
Trustmark Corporation	TRMK	Equity
TRINITY INDUSTRIES INC.	TRN	Equity
TROOPS, Inc.	TROO	Equity
T. ROWE PRICE GROUP INC.	TROW	Equity
Tronox Ltd.	TROX	Equity
TransCanada Corp.	TRP	Equity
Triton International Ltd	TRTN	Equity
TPG RE Finance Trust, Inc.	TRTX	Equity
TransUnion	TRU	Equity
TRUECAR, INC.	TRUE	Equity
Trupanion, Inc.	TRUP	Equity
THE TRAVELERS COMPANIES, INC.	TRV	Equity
trivago N.V.	TRVG	Equity
Tanzanian Royalty Exploration	TRX	Equity
TENARIS SA	TS	Equity
Telesat Corporation	TSAT	Equity
TRACTOR SUPPLY COMPANY	TSCO	Equity
Trinseo S.A.	TSE	Equity
TOWER SEMICONDUCTOR LTD.	TSEM	Equity
TAYSHA GENE THERAPIES, INC.	TSHA	Equity
TESLA MOTORS, INC.	TSLA	Equity
DIREXION DAILY TSLA BULL 1.5X SHARES	TSLB	ETF
AXS TSLA BEAR DAILY ETF	TSLQ	ETF
TAIWAN SEMICONDUCTOR MFG. CO.	TSM	Equity
TYSON FOODS, INC.	TSN	Equity
TUSIMPLE HOLDINGS INC	TSP	Equity
Townsquare Media, Inc.	TSQ	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
2SEVENTY BIO, INC.	TSVT	Equity
Trane Technologies plc	TT	Equity
THE TORO COMPANY	TTC	Equity
Tattooed Chef, Inc.	TTCF	Equity
The Trade Desk, Inc.	TTD	Equity
TotalEnergies SE	TTE	Equity
TTEC Holdings, Inc.	TTEC	Equity
Tetra Tech, Inc.	TTEK	Equity
TechTarget, Inc.	TTGT	Equity
TETRA Technologies, Inc.	TTI	Equity
TTM Technologies, Inc.	TTMI	Equity
Titan Pharmaceuticals Inc.	TTNP	Equity
T2 Biosystems, Inc.	TTOO	Equity
Tile Shop Holdings, Inc.	TTSH	Equity
ProShares UltraPro Short 20+ Year Treasury	TTT	ETF
TAKE-TWO INTERACTIVE	TTWO	Equity
Telus Corporation	TU	Equity
Tupperware Brands Corp	TUP	Equity
ISHARES MSCI TURKEY	TUR	ETF
180 Degree Capital Corporation	TURN	Equity
Mammoth Energy Services Inc	TUSK	Equity
TUYA INC	TUYA	Equity
GRUPO TELEVISIA, S.A.B.	TV	Equity
Travere Therapeutics, Inc	TVTX	Equity
Tradeweb Markets Inc.	TW	Equity
Titan International, Inc.	TWI	Equity
THOUGHTWORKS HOLDINGS	TWKS	Equity
Twilio, Inc.	TWLO	Equity
Proshares UltrShort Russell 2000(reverse split)	TWM	Equity
Hostess Brands, Inc.	TWNK	Equity
Two Harbors Investment Corporation	TWO	Equity
2U, Inc.	TWOU	Equity
TWIST BIOSCIENCE CORP.	TWST	Equity
Ternium S.A.	TX	Equity
10X Genomics Inc	TXG	Equity
THERAPEUTICSMD, INC	TXMD	Equity
TEXAS INSTRUMENTS INC.	TXN	Equity
Texas Roadhouse, Inc.	TXRH	Equity
TEXTRON INC.	TXT	Equity
Direxion Daily 7 to 10 Year Treasury Bull 3X Shrs	TYD	ETF
Tyler Technologies, Inc.	TYL	Equity
DIREXION DAILY SMALL CAP BEAR 3X SHARES	TZA	ETF
UNITY SOFTWARE, INC.	U	Equity
UNDER ARMOUR, INC.	UA	Equity
Under Armour, Inc.	UAA	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
UNITED CONTINENTAL HOLDINGS, INC.	UAL	Equity
US Antimony Corp.	UAMY	Equity
CVR Partners LP	UAN	Equity
AGEAGLE AERIAL SYSTEM INC.	UAVS	Equity
Urstadt Biddle Properties Inc	UBA	Equity
Uber Technologies, Inc.	UBER	Equity
UBS Group Ag	UBS	Equity
UNITY BIOTECHNOLOGY INC.	UBX	Equity
PROSHARES ULTRA DJ-UBS CRUDE OIL	UCO	ETF
Ultra Clean Holdings, Inc.	UCTT	Equity
UDEMY, INC.	UDMY	Equity
PowerShares DB US Dollar Index Bearish Fund	UDN	ETF
ProShares UltraPro Dow30	UDOW	ETF
UDR, Inc.	UDR	Equity
Urban Edge Properties	UE	Equity
Uranium Energy Corp	UEC	Equity
UNIVERSAL ELECTRONICS, INC.	UEIC	Equity
Universal Forest Products, Inc.	UFPI	Equity
United States Gasoline	UGA	ETF
UGI Corporation	UGI	Equity
ProShares Ultra Gold	UGL	ETF
Ultrapar Participacoes SA	UGP	Equity
AMERCO	UHAL	Equity
UNIVERSAL HEALTH SERVICES INC	UHS	Equity
Ubiquiti Inc.	UI	Equity
UNITED INSURANCE HOLDINGS CORPORATION	UIHC	Equity
UNISYS CORPORATION	UIS	Equity
Unilever PLC	UL	Equity
Frontier Group Holdings, Inc.	ULCC	Equity
ProShares Ultra Euro	ULE	ETF
ULTA SALON COSMETICS & FRAGRANCE INC	ULTA	Equity
United Microelectronics Corporation	UMC	Equity
UNITED NATURAL FOODS, INC.	UNFI	Equity
UNITED STATES NATURAL GAS	UNG	ETF
UNITEDHEALTH GROUP INCORPORATED	UNH	Equity
Uniti Group Inc.	UNIT	Equity
Unum Group	UNM	Equity
UNION PACIFIC CORPORATION	UNP	Equity
URBAN ONE INC	UONE	Equity
URBAN ONE INC	UONEK	Equity
Wheels Up Experience Inc.	UP	Equity
Upbound Group, Inc.	UPBD	Equity
Upland Software, Inc.	UPLD	Equity
ProShares Ultrapro S&P 500	UPRO	ETF
UNITED PARCEL SERVICE, INC.	UPS	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
UPSTART HOLDINGS, INC.	UPST	Equity
Upwork Inc.	UPWK	Equity
Global X Uranium ETF	URA	ETF
URBAN OUTFITTERS INC	URBN	Equity
ProShares Ultra Real Estate	URE	ETF
Urogen Pharma Ltd	URGN	Equity
UNITED RENTALS, INC.	URI	Equity
NORTHSHORE GLOBAL URANIUM MINING ETF	URNM	ETF
URANIUM ROYALTY CORP	UROY	Equity
ProShares UltraPro Russell2000	URTY	ETF
USA COMPRESSION PARTNERS, L.P.	USAC	Equity
U.S. GOLD CORP.	USAU	Equity
U.S. BANCORP	USB	Equity
ProShares Ultra Semiconductors	USD	ETF
US Foods Holding Corp.	USFD	Equity
United States 12 Month Oil Fund, LP	USL	ETF
U.S. Cellular Corporation	USM	Equity
iShares MSCI USA Minimum Volatility	USMV	ETF
USANA Health Sciences, Inc.	USNA	Equity
UNITED STATES OIL FUND	USO	ETF
US PHYSICAL THERAPY INC	USPH	Equity
US Xpress Enterprises Inc	USX	Equity
UNITED THERAPEUTICS CORP	UTHR	Equity
Universal Technical Institute, Inc.	UTI	Equity
Utz Brands, Inc.	UTZ	Equity
POWERSHARES DB US DOLLAR INDEX BULLISH	UUP	ETF
Energy Fuels Inc.	UUUU	Equity
UNIVERSAL INSURANCE HOLDINGS, INC.	UVE	Equity
2X LONG VIX FUTURES ETF	UVIX	ETF
UNIVERSAL CORPORATION	UVV	Equity
PROSHARES ULTRA VIX SHORT-TERM FUT ETF	UVXY	ETF
ProShares Ultra Russell2000	UWM	ETF
UWM Holdings Corporation	UWMC	Equity
Uxin Limited	UXIN	Equity
ProShares Ultra Financials	UYG	ETF
VISA INC.	V	Equity
Marriott Vacations Worldwide Corp.	VAC	Equity
VALARIS LIMITED	VAL	Equity
VALE S.A.	VALE	Equity
Vivani Medical, Inc	VANI	Equity
VAPOTHERM, INC.	VAPO	Equity
INNOVATE Corp.	VATE	Equity
Vanguard Small-Cap ETF	VB	ETF
VBI Vaccines Inc.	VBIV	Equity
Vanguard Small-Cap Growth ETF	VBK	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Vascular Biogenics Ltd.	VBLT	Equity
Vanguard Small-Cap Value ETF	VBR	ETF
Veritex Holdings Inc	VBTX	Equity
Visteon Corp.	VC	Equity
Vericel Corporation	VCEL	Equity
Vanguard Long-Term Corporate Bond ETF	VCLT	ETF
VACCINEX, INC.	VCNX	Equity
VACASA INC	VCSA	Equity
Veracyte, Inc.	VCYT	Equity
Vanguard Energy ETF	VDE	ETF
Vanguard FTSE Developed Markets ETF	VEA	ETF
VEECO INSTRUMENTS	VECO	Equity
VEEVA SYSTEMS INC.	VEEV	Equity
VELOCITY FINANCIAL, INC	VEL	Equity
Veritone, Inc.	VERI	Equity
Veru Inc	VERU	Equity
VERVE THERAPEUTICS INC	VERV	Equity
VERTEX, INC.	VERX	Equity
Vermilion Energy Inc	VET	Equity
VF CORPORATION	VFC	Equity
Village Farms International, Inc.	VFF	Equity
Vanguard Financials ETF	VFH	ETF
Vanguard FTSE Europe ETF	VGK	ETF
VECTOR GROUP LTD.	VGR	Equity
Vanguard Information Technology ETF	VGT	Equity
Vista Gold Corp.	VGZ	Equity
VIRNETX HOLDING CORP	VHC	Equity
Vanguard Health Care ETF	VHT	ETF
Viavi Solutions Inc.	VIAV	Equity
VICI Properties Inc.	VICI	Equity
Vicor Corporation	VICR	Equity
View, Inc.	VIEW	Equity
Vanguard Dividend Appreciation ETF	VIG	ETF
VIPSHOP HOLDINGS LIMITED	VIPS	Equity
Vir Biotechnology, Inc.	VIR	Equity
VIROS THERAPEUTICS, INC.	VIRI	Equity
Virtu Financial, Inc.	VIRT	Equity
Viracta Therapeutics, Inc.	VIRX	Equity
VISTA OIL & GAS SAB DE CV	VIST	Equity
VITAL FARMS, INC.	VITL	Equity
Telefonica Brasil S.A.	VIV	Equity
ProShares VIX Mid-Term Futures	VIXM	ETF
ProShares VIX Short-Term Futures ETF	VIXY	ETF
Viking Therapeutics, Inc.	VKTX	Equity
Velo3D, Inc	VLD	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
VALERO ENERGY CORPORATION	VLO	Equity
Controladora Vuela Compania de	VLRS	Equity
VALLEY NATIONAL BANCORP	VLY	Equity
VANGUARD MORTGAGE-BACKED SECURITIES ETF	VMBS	ETF
VULCAN MATERIALS COMPANY	VMC	Equity
VIMEO, INC.	VMEO	Equity
Valmont Industries, Inc.	VMI	Equity
VMWARE, INC.	VMW	Equity
Vanda Pharmaceuticals, Inc.	VNDA	Equity
21Vianet Group Inc	VNET	Equity
VORNADO REALTY TRUST	VNO	Equity
Viper Energy Partners LP	VNOM	Equity
Vanguard REIT ETF	VNQ	ETF
VOLITIONRX LIMITED	VNRX	Equity
VONTIER CORP	VNT	Equity
Vanguard Mid-Cap ETF	VO	ETF
Voc Energy Trust	VOC	Equity
VODAFONE GROUP PUBLIC LIMITED COMPANY	VOD	Equity
Vanguard Mid-Cap Value ETF	VOE	ETF
Vanguard S&P 500 ETF	VOO	ETF
VOXX International Corporation	VOXX	Equity
VOYA FINANCIAL INC.	VOYA	Equity
Vanguard Utilities Index Fund ETF	VPU	ETF
Vera Bradley, Inc.	VRA	Equity
THE GLIMPSE GROUP INC	VRAR	Equity
ViewRay, Inc.	VRAY	Equity
VERRICA PHARMACEUTICALS INC.	VRCA	Equity
VIRIDIAN THERAPEUTICS, INC.	VRDN	Equity
Veris Residential, Inc.	VRE	Equity
Varex Imaging Corporation	VREX	Equity
VROOM INC.	VRM	Equity
VERONA PHARMA PLC	VRNA	Equity
Varonis Systems, Inc.	VRNS	Equity
Verint Systems, Inc.	VRNT	Equity
VERRA MOBILITY CORP.	VRRM	Equity
Verisk Analytics, Inc.	VRSK	Equity
VERISIGN, INC.	VRSN	Equity
VERTIV HOLDINGS CO	VRT	Equity
Veritiv Corporation	VRTV	Equity
VERTEX PHARMACEUTICALS INCORPORATED	VRTX	Equity
ViaSat, Inc.	VSAT	Equity
VICTORIAS SECRET & CO	VSCO	Equity
VISHAY INTERTECHNOLOGY	VSH	Equity
Vistra Energy Corp.	VST	Equity
Verastem, Inc.	VSTM	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Vista Outdoor Inc.	VSTO	Equity
Vanguard Total World Stock ETF	VT	ETF
VTEX	VTEX	Equity
VISTAGEN THERAPEUTICS, INC.	VTGN	Equity
Vanguard Total Stock Market ETF	VTI	ETF
VANGUARD SHORT-TERM INFLATION-PROTECTED SECURITIES	VTIP	ETF
Vital Energy, Inc.	VTLE	Equity
VERTEX ENERGY, INC.	VTNR	Equity
BRISTOW GROUP INC	VTOL	Equity
Ventas, Inc.	VTR	Equity
Viatis Inc.	VTRS	Equity
VIRTRA, INC.	VTSI	Equity
Vanguard Value ETF	VTV	ETF
Vanguard Russell 2000 ETF	VTWO	ETF
VENTYX BIOSCIENCES, INC.	VTYX	Equity
Vanguard Growth ETF	VUG	ETF
Vuzix Corporation	VUZI	Equity
VIVOS THERAPEUTICS, INC.	VVOS	Equity
VIVOPOWER INTERNATIONAL PLC	VVPR	Equity
Valvoline Inc.	VVV	Equity
V2X, Inc.	VVX	Equity
Vintage Wine Estates, Inc.	VWE	Equity
Vanguard MSCI Emerging Markets ETF	VWO	ETF
VAXART, INC.	VXRT	Equity
Vanguard Total International Stock ETF	VXUS	ETF
iPath Series B S&P 500 VIX Short-Term Futures ETN	VXX	ETF
iPath Series B S&P 500 VIX Mid-Term Futures ETN	VXZ	ETF
Voyager Therapeutics, Inc.	VYGR	Equity
Vanguard High Dividend Yield ETF	VYM	ETF
VERIZON COMMUNICATIONS INC.	VZ	Equity
VIZIO HOLDING CORP	VZIO	Equity
Wayfair Inc.	W	Equity
Westinghouse Air Brake Technologies Corporation	WAB	Equity
WASHINGTON FEDERAL INC.	WAFD	Equity
Western Alliance Bancorp	WAL	Equity
WATERS CORPORATION	WAT	Equity
Energous Corporation	WATT	Equity
WEIBO CORP. (ADR)	WB	Equity
Walgreens Boots Alliance, Inc.,	WBA	Equity
Warner Bros. Discovery, Inc.	WBD	Equity
WEBSTER FINANCIAL CORPORATION	WBS	Equity
Wallbox N.V.	WBX	Equity
WESCO INTERNATIONAL	WCC	Equity
WISDOMTREE CLOUD COMPUTING FUND	WCLD	ETF
Waste Connections Inc.	WCN	Equity

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
Walker & Dunlop, Inc.	WD	Equity
Workday, Inc.	WDAY	Equity
WESTERN DIGITAL CORPORATION	WDC	Equity
WD-40 Company	WDFC	Equity
WOODSIDE ENERGY GROUP LTD	WDS	Equity
WeWork Inc.	WE	Equity
Teucrium Wheat ETF	WEAT	ETF
WEAVE COMMUNICATIONS, INC.	WEAV	Equity
DIREXION DAILY DOW JONES INTERNET BULL 3X SHARES	WEBL	ETF
WISCONSIN ENERGY CORP.	WEC	Equity
Welltower Inc.	WELL	Equity
The Wendy's Company	WEN	Equity
WERNER ENTERPRISES INC.	WERN	Equity
Western Midstream Partners L.P.	WES	Equity
Westrock Coffee Company	WEST	Equity
WEX Inc.	WEX	Equity
WELLS FARGO & COMPANY	WFC	Equity
WEST FRASER TIMBER CO. LTD.	WFG	Equity
WEATHERFORD INTERNATIONAL PLC	WFRD	Equity
WINNEBAGO INDUSTRIES, INC	WGO	Equity
GeneDx Holdings Corporation	WGS	Equity
Wyndham Hotels & Resorts, Inc.	WH	Equity
Cactus Inc	WHD	Equity
WHIRLPOOL CORPORATION	WHR	Equity
WIMI HOLOGRAM CLOUD INC	WIMI	Equity
Wingstop Inc.	WING	Equity
ENCORE WIRE CORPORATION	WIRE	Equity
ContextLogic Inc.	WISH	Equity
WIPRO LTD.	WIT	Equity
WIX.COM LTD.	WIX	Equity
Workiva Inc.	WK	Equity
Workhorse Group Inc.	WKHS	Equity
WALKME LTD.	WKME	Equity
WORKSPORT, LTD	WKSP	Equity
Westlake Chemical Corp	WLK	Equity
Westlake Chemical Partners LP	WLKP	Equity
WASTE MANAGEMENT, INC.	WM	Equity
WILLIAMS COMPANIES, INC.	WMB	Equity
Warner Music Group Corp.	WMG	Equity
Advanced Drainage Systems, Inc.	WMS	Equity
WAL-MART INC.	WMT	Equity
WABASH NATIONAL CORP.	WNC	Equity
WNS Holdings Ltd	WNS	Equity
Wolfspeed, Inc.	WOLF	Equity
PETCO HEALTH AND WELLNESS COMPANY, INC.	WOOF	Equity



**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
WORTHINGTON INDUSTRIES,INC.	WOR	Equity
WideOpenWest, Inc.	WOW	Equity
W.P. Carey Inc.	WPC	Equity
Wheaton Precious Metals Corporation	WPM	Equity
WPP plc	WPP	Equity
WESTPORT INNOVATIONS INC.	WPRT	Equity
Wrap Technologies, Inc.	WRAP	Equity
BERKLEY(WR) CORP	WRB	Equity
WARBY PARKER, INC.	WRBY	Equity
WestRock Company	WRK	Equity
Waterstone Financial, Inc.	WSBF	Equity
WillScot Corporation	WSC	Equity
WILLIAMS-SONOMA INC	WSM	Equity
WATSCO INC	WSO	Equity
Whitestone REIT	WSR	Equity
West Pharmaceutical Services Inc	WST	Equity
WisdomTree, Inc.	WT	Equity
Wintrust Financial Corporation	WTFC	Equity
W&T OFFSHORE INC	WTI	Equity
Essential Utilities, Inc.	WTRG	Equity
Select Energy Services, Inc.	WTTR	Equity
Willis Towers Watson Public Limited Company	WTW	Equity
THE WESTERN UNION COMPANY	WU	Equity
TERAWULF INC.	WULF	Equity
WAVE Life Sciences Ltd	WVE	Equity
Weight Watchers International, Inc.	WW	Equity
Woodward, Inc.	WWD	Equity
World Wrestling Entertainment Inc	WWE	Equity
WESTWATER RESOURCES INC	WWR	Equity
WOLVERINE WORLD WIDE INC	WWW	Equity
WEYERHAEUSER COMPANY	WY	Equity
WYNN RESORTS LTD.	WYNN	Equity
WIDEPOINT CORPORATION	WYY	Equity
UNITED STATES STEEL CORPORATION	X	Equity
BEYOND AIR INC	XAIR	Equity
SPDR S&P Biotech ETF	XBI	ETF
XBiotech, Inc.	XBIT	Equity
XCEL ENERGY INC	XEL	Equity
Xenon Pharmaceuticals Inc.	XENE	Equity
Xeris Biopharma Holdings, Inc.	XERS	Equity
SPDR S&P Oil & Gas Equipment & Svcs ETF	XES	ETF
X4 PHARMACEUTICALS, INC.	XFOR	Equity
EXAGEN, INC.	XGN	Equity
SPDR S&P HOMEBUILDERS	XHB	ETF
Xenia Hotels & Resorts, Inc.	XHR	Equity

MIAX Emerald Options as of 6/2/23		
Company Name	Symbol	Inst Type
MATERIALS SELECT SECTOR SPDR	XLB	ETF
Communication Services Select Sect SPDR ETF	XLC	ETF
ENERGY SELECT SECTOR SPDR	XLE	ETF
FINANCIAL SELECT SECTOR SPDR	XLF	ETF
INDUSTRIAL SELECT SECTOR SPDR	XLI	ETF
TECHNOLOGY SELECT SECTOR SPDR	XLK	ETF
CONSUMER STAPLES SELECT SECTOR SPDR	XLP	ETF
Real Estate Select Sector SPDR	XLRE	ETF
UTILITIES SELECT SECTOR SPDR	XLU	ETF
HEALTH CARE SELECT SECTOR SPDR	XLV	ETF
CONSUMER DISCRETIONARY SELECT SPDR	XLY	ETF
QUALTRICS INTERNATIONAL	XM	Equity
SPDR S&P METALS & MINING	XME	ETF
XOMETRY INC.	XMTR	Equity
Xencor, Inc.	XNCR	Equity
Xunlei Limited	XNET	Equity
EXXON MOBIL CORPORATION	XOM	Equity
XOMA CORPORATION	XOMA	Equity
SPDR S&P OIL & GAS EXPLORATION & PROD	XOP	ETF
Xos, Inc.	XOS	Equity
XP Inc.	XP	Equity
XPEL, INC.	XPEL	Equity
XPENG, INC. ADR CLASS A	XPEV	Equity
XPO Logistics, Inc.	XPO	Equity
XPONENTIAL FITNESS, INC	XPOF	Equity
ProShares Ultra FTSE China 50	XPP	ETF
DENTSPLY INTL, INC.	XRAY	Equity
SPDR S&P RETAIL	XRT	ETF
XEROX CORPORATION	XRX	Equity
SPDR S&P Semiconductor ETF	XSD	ETF
XWELL, Inc.	XWEL	Equity
22ND CENTURY GROUP, INC.	XXII	Equity
Xylem Inc.	XYL	Equity
GLOBAL X S&P 500 COVERED CALL ETF	XYLD	ETF
YALLA GROUP LIMITED	YALA	Equity
Direxion Daily FTSE China Bear 3x Shares	YANG	ETF
ProShares UltraShort Yen	YCS	ETF
Yellow Corporation	YELL	Equity
YELP, INC.	YELP	Equity
YETI Holdings, Inc.	YETI	Equity
Yext, Inc.	YEXT	Equity
Direxion Daily China 3X Bull Shares	YINN	ETF
Y-MABS THERAPEUTICS INC	YMAB	Equity
FULL TRUCK ALLIANCE CO. LTD.	YMM	Equity
ADVISORSHARES PURE CANNABIS ETF	YOLO	ETF

**MIAX Emerald Options as of 6/2/23**

<b>Company Name</b>	<b>Symbol</b>	<b>Inst Type</b>
CLEAR SECURE, INC	YOU	Equity
YPF S.A.	YPF	Equity
Yirendai Ltd.	YRD	Equity
YATSEN HOLDING LTD	YSG	Equity
YUM! BRANDS, INC.	YUM	Equity
Yum China Holdings, Inc.	YUMC	Equity
LIQUID MEDIA GROUP LTD.	YVR	Equity
YY INC.	YY	Equity
ZILLOW GROUP, INC.	Z	Equity
Zimmer Bionet Holdings, Inc.	ZBH	Equity
ZEBRA TECHNOLOGIES CORP.	ZBRA	Equity
Ziff Davis, Inc.	ZD	Equity
ZEDGE INC	ZDGE	Equity
Zepp Health Corporation	ZEPP	Equity
ZETA GLOBAL HOLDINGS CORP.	ZETA	Equity
OLYMPIC STEEL INC.	ZEUS	Equity
Zillow Group, Inc	ZG	Equity
ZHIHU INC	ZH	Equity
ZOOMINFO TECHNOLOGIES INC.	ZI	Equity
ZIM INTEGRATED SHIPPING SERVICE	ZIM	Equity
ZIMVIE INC.	ZIMV	Equity
ZIONS BANCORP	ZION	Equity
ZIPRECRUITER, INC	ZIP	Equity
ZK INTERNATIONAL GROUP CO., LTD.	ZKIN	Equity
ZAI LAB LTD	ZLAB	Equity
Zoom Video Communications. Inc.	ZM	Equity
ZENTALIS PHARMACEUTICALS, INC.	ZNTL	Equity
Zscaler, Inc.	ZS	Equity
ProShares UltraShort Silver (20 shares)	ZSL	ETF
ZTO Express (Cayman) Inc.	ZTO	Equity
ZOETIS INC.	ZTS	Equity
ZUMIEZ INC	ZUMZ	Equity
Zuora, Inc.	ZUO	Equity
Zevra Therapeutics, Inc.	ZVRA	Equity
Zurn Water Solutions Corporation	ZWS	Equity
Zymeworks Inc	ZYME	Equity
Zynerba Pharmaceuticals, Inc.	ZYNE	Equity
Zynex, Inc.	ZYXI	Equity