



The option classes listed below will begin trading on the MIAX Emerald Options Exchange at the start of trading on **Thursday, December 23, 2021**. All option classes on MIAX Emerald have an allocation style of Pro-Rata and billing style of Maker-Taker.

| Security Symbol | Security Name | Option Class | Penny Pilot | Exchange for Opening | Closing Time | PLMM | Cloud |
|-----------------|-------------------------------------|--------------|-------------|----------------------|--------------|-------------------------|-------|
| ADIL | ADIAL PHARMACEUTICALS, INC | ADIL | No | NASDAQ | 4:00 | Citadel Securities, LLC | 1 |
| AKUS | AKOUOS INC | AKUS | No | NASDAQ | 4:00 | Susquehanna Securities | 1 |
| ALPP | ALPINE 4 HOLDINGS, INC. | ALPP | No | NASDAQ | 4:00 | Susquehanna Securities | 1 |
| AMPL | AMPLITUDE INC | AMPL | No | NASDAQ | 4:00 | Morgan Stanley | 1 |
| ARCE | ARCO PLATFORM LTD. | ARCE | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 1 |
| ATMR | ALTIMAR ACQUISITION CORP. II | ATMR | No | NYSE | 4:00 | Citadel Securities, LLC | 1 |
| AVDX | AVIDXCHANGE HOLDINGS INC | AVDX | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 1 |
| BBAI | BigBear.ai Holdings, Inc. (old GIG) | BBAI | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| BDRY | BREAKWAVE DRY BULK SHIPPING ETF | BDRY | No | NYSE Arca | 4:00 | Citadel Securities, LLC | 2 |
| BENE | BENESSERE CAPITAL ACQUISITION CORP | BENE | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 2 |
| BRAG | BRAGG GAMING GROUP INC. | BRAG | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 2 |
| BTRS | BTRSHOLDINGS INC. | BTRS | No | NASDAQ | 4:00 | Citadel Securities, LLC | 2 |

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|-----------------|-----------------------------------|--------------|-------------|----------------------|--------------|-------------------------|-------|
| CCV | CHURCHILL CAPITAL CORP. V | CCV | No | NYSE | 4:00 | Wolverine Trading, LLC | 2 |
| CND | CONCORD ACQUISITION CORP | CND | No | NYSE | 4:00 | Citadel Securities, LLC | 2 |
| CNMD | CONMED CORP. | CNMD | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| COR | Coresite Realty Corp. | COR | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| CPLG | COREPOINT LODGING INC | CPLG | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| CPUH | COMPUTE HEALTH ACQUISITION CORP. | CPUH | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| CRHC | COHN ROBBINS HOLDINGS CORPORATION | CRHC | No | NYSE | 4:00 | Wolverine Trading, LLC | 2 |
| CRU | CRUCIBLE ACQUISITION CORP. | CRU | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| CSPR | Casper Sleep Inc. | CSPR | No | NYSE | 4:00 | Susquehanna Securities | 2 |
| DOGZ | DOGNESS INTERNATIONAL CORPORATION | DOGZ | No | NASDAQ | 4:00 | Citadel Securities, LLC | 3 |
| DPRO | DRAGANFLY INC | DPRO | No | NASDAQ | 4:00 | Susquehanna Securities | 3 |
| DSGX | DESCARTES SYSTEM GROUP INC | DSGX | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 3 |
| DXLG | DESTINATION XL GROUP, INC. | DXLG | No | NASDAQ | 4:00 | Citadel Securities, LLC | 3 |
| ECOL | Ecology Inc | ECOL | No | NASDAQ | 4:00 | Citadel Securities, LLC | 3 |
| EVOP | EVO PAYMENTS INC | EVOP | No | NASDAQ | 4:00 | Citadel Securities, LLC | 3 |

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| EVTL | Vertical Aerospace Ltd. | EVTL | No | NYSE | 4:00 | Susquehanna Securities | 3 |
| FCUV | FOCUS UNIVERSAL INC | FCUV | No | NASDAQ | 4:00 | Susquehanna Securities | 3 |
| FINX | GLOBAL X FINTECH ETF | FINX | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 3 |
| FXLV | F45 TRAINING HOLDINGS, INC. | FXLV | No | NYSE | 4:00 | Wolverine Trading, LLC | 3 |
| GCP | GCP Applied Technologies Inc | GCP | No | NYSE | 4:00 | Citadel Securities, LLC | 4 |
| GDP | GOODRICH PETROLEUM CORPORATION | GDP | No | AMEX | 4:00 | Susquehanna Securities | 4 |
| GREE | GREENIDGE GENERATION HOLDINGS INC | GREE | No | NASDAQ | 4:00 | Susquehanna Securities | 4 |
| GROM | GROM SOCIAL ENTERPRISES, INC. | GROM | No | NASDAQ | 4:00 | Citadel Securities, LLC | 4 |
| HIVE | HIVE BLOCKCHAIN TECHNOLOGIES LTD. | HIVE | No | NASDAQ | 4:00 | Citadel Securities, LLC | 4 |
| HJEN | DIREXION HYDROGEN ETF | HJEN | No | NYSE Arca | 4:00 | Wolverine Trading, LLC | 4 |
| IIIV | I3 VERTICALS INC | IIIV | No | NASDAQ | 4:00 | Citadel Securities, LLC | 5 |
| IMCC | IM CANNABIS CORP | IMCC | No | NASDAQ | 4:00 | Citadel Securities, LLC | 5 |
| IVAN | IVANHOE CAPITAL ACQUISITION CORP. | IVAN | No | NYSE | 4:00 | Susquehanna Securities | 5 |
| JOBS | 51 Jobs Inc | JOBS | No | NASDAQ | 4:00 | Susquehanna Securities | 5 |
| JXN | JACKSON FINANCIAL INCORPORATION | JXN | No | NYSE | 4:00 | Morgan Stanley | 5 |

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|-----------------|--|--------------|-------------|----------------------|--------------|-------------------------|-------|
| KBNT | KUBIENT INC | KBNT | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 5 |
| KIDS | ORTHOPEDIATRICS CORP | KIDS | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 5 |
| KRBN | KraneShares Global Carbon Strategy ETF | KRBN | No | NYSE Arca | 4:00 | Wolverine Trading, LLC | 5 |
| KULR | KULR TECHNOLOGY GROUP INC | KULR | No | AMEX | 4:00 | Susquehanna Securities | 5 |
| KZR | KEZAR LIFE SCIENCES INC | KZR | No | NASDAQ | 4:00 | Susquehanna Securities | 5 |
| LAW | CS DISCO, INC | LAW | No | NYSE | 4:00 | Wolverine Trading, LLC | 5 |
| LDI | LOANDEPOT, INC. | LDI | No | NYSE | 4:00 | Citadel Securities, LLC | 5 |
| LHDX | LUCIRA HEALTH, INC. | LHDX | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 5 |
| LMFA | LM FUNDING AMERICA INC | LMFA | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 5 |
| LSXMK | LIBERTY MEDIA CORP- SIRIUSXM C | LSXMK | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 5 |
| MCFE | McAfee Corp. | MCFE | No | NASDAQ | 4:00 | Susquehanna Securities | 6 |
| META | ROUNDHILL BALL METAVERSE ETF | META | No | NYSE Arca | 4:00 | Wolverine Trading, LLC | 6 |
| MIMO | AIRSPAN NETWORKS HOLDINGS INC. | MIMO | No | AMEX | 4:00 | Susquehanna Securities | 6 |
| MNOV | PROG Holdings, Inc. | MNOV | No | NASDAQ | 4:00 | Susquehanna Securities | 6 |
| MSP | DATTO HOLDING CORP. | MSP | No | NYSE | 4:00 | Wolverine Trading, LLC | 6 |



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| NABL | N-ABLE, INC | NABL | No | NYSE | 4:00 | Citadel Securities, LLC | 6 |
| NVTS | NAVITASSEMICONDUCTOR CORPORATION | NVTS | No | NASDAQ | 4:00 | Citadel Securities, LLC | 6 |
| OLMA | Aurora Innovation, Inc. | OLMA | No | NASDAQ | 4:00 | Citadel Securities, LLC | 7 |
| ONCR | ONCORUS, INC. | ONCR | No | NASDAQ | 4:00 | Susquehanna Securities | 7 |
| ONTF | ON24, INC | ONTF | No | NYSE | 4:00 | Wolverine Trading, LLC | 7 |
| PDFS | PDF Solutions Inc | PDFS | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 7 |
| PTLO | PORTILLOS INC | PTLO | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 7 |
| RLGT | Radiant Logistics, Inc. | RLGT | No | AMEX | 4:00 | Citadel Securities, LLC | 7 |
| RMBL | RUMBLEON, INC. | RMBL | No | NASDAQ | 4:00 | Citadel Securities, LLC | 7 |
| ROG | ROGERS CORPORATION | ROG | No | NYSE | 4:00 | Susquehanna Securities | 7 |
| SITM | SITIME CORP | SITM | No | NASDAQ | 4:00 | Susquehanna Securities | 8 |
| SRAD | SPORTRADAR GROUP | SRAD | No | NASDAQ | 4:00 | Susquehanna Securities | 8 |
| STEP | STEPSTONE GROUP INC | STEP | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 8 |
| THRY | THRYV HOLDINGS, INC. | THRY | No | NASDAQ | 4:00 | Susquehanna Securities | 8 |
| TOKE | CAMBRIA CANNABIS ETF | TOKE | No | BATS | 4:00 | Citadel Securities, LLC | 8 |



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| UONEK | URBAN ONE INC | UONEK | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 9 |
| WCLD | WISDOMTREE CLOUD COMPUTING FUND | WCLD | No | NASDAQ | 4:00 | Wolverine Trading, LLC | 10 |
| XMTR | XOMETRY INC. | XMTR | No | NASDAQ | 4:00 | Citadel Securities, LLC | 10 |
| XPDI | POWER & DIGITAL INFRASTRUCTURE ACQUISITION CORP | XPDI | No | NASDAQ | 4:00 | Citadel Securities, LLC | 10 |
| XPOF | XPONENTIAL FITNESS, INC | XPOF | No | NYSE | 4:00 | Susquehanna Securities | 10 |

Please contact MIAX Options Listings with any questions.

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