

The option class listed below will begin trading on the MIAX Emerald Options Exchange at the start of trading on **Wednesday, September 18, 2019**. 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
ACCO	ACCO Brands Corp	ACCO	No	NYSE	4:00 PM	Wolverine Trading, LLC	1
AM	Antero Midstream Partners LP	AM	No	NYSE	4:00 PM	Morgan Stanley	1
AMZA	InfraCap MLP ETF	AMZA	No	NYSE ARCA	4:00 PM	Wolverine Trading, LLC	1
APPN	Appian Corporation	APPN	No	NASDAQ	4:00 PM	Morgan Stanley	1
ARLO	Arlo Technologies, Inc.	ARLO	No	NYSE	4:00 PM	Morgan Stanley	1
ATNX	Athenex, Inc.	ATNX	No	NASDAQ	4:00 PM	Citadel Securities, LLC	1
AVLR	Avalara, Inc.	AVLR	No	NYSE	4:00 PM	Wolverine Trading, LLC	1
AVYA	Avaya Holdings Corp.	AVYA	No	NYSE	4:00 PM	Citadel Securities, LLC	1
AXSM	Axsome Therapeutics, Inc.	AXSM	No	NASDAQ	4:00 PM	Susquehanna Securities	1
BE	Bloom Energy Corporation	BE	No	NYSE	4:00 PM	Citadel Securities, LLC	2
BIL	SPDR Bloomberg Barclays 1-3 Month T-Bill ETF	BIL	No	NYSE ARCA	4:00 PM	Wolverine Trading, LLC	2
BOOM	Dynamic Materials Corporation	BOOM	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	2
BSGM	BioSig Technologies, Inc.	BSGM	No	NASDAQ	4:00 PM	Susquehanna Securities	2
CADE	Cadence Bancorporation	CADE	No	NYSE	4:00 PM	Susquehanna Securities	2
CECE	CECO Environmental Corp	CECE	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	2
CISN	Cision Ltd.	CISN	No	NYSE	4:00 PM	Susquehanna Securities	2
CNTY	Century Casinos, Inc.	CNTY	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	2
CTST	CannTrust Holdings Inc.	CTST	No	NYSE	4:00 PM	Citadel Securities, LLC	2
CTVA	Corteva, Inc.	CTVA	No	NYSE	4:00 PM	Two Sigma Securities, LLC	2
CVET	Covetrus, Inc.	CVET	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	2
CVM	CEL-SCI Corporation	CVM	No	AMEX	4:00 PM	Citadel Securities, LLC	2
DCPH	Deciphera Pharmaceuticals, Inc.	DCPH	No	NASDAQ	4:00 PM	Susquehanna Securities	3

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DMRC	Digimarc Corporation	DMRC	No	NASDAQ	4:00 PM	Susquehanna Securities	3
DOMO	Domo, Inc.	DOMO	No	NASDAQ	4:00 PM	Susquehanna Securities	3
DOVA	Dova Pharmaceuticals, Inc.	DOVA	No	NASDAQ	4:00 PM	Susquehanna Securities	3
EB	Eventbrite, Inc.	EB	No	NYSE	4:00 PM	Two Sigma Securities, LLC	3
ELAN	Elanco Animal Health Incorporated	ELAN	No	NYSE	4:00 PM	Citadel Securities, LLC	3
EMLC	Market Vectors Emerging Mkts Local Currency Bd ETF	EMLC	No	NYSE ARCA	4:00 PM	Wolverine Trading, LLC	3
EOLS	Evolus, Inc.	EOLS	No	NASDAQ	4:00 PM	Susquehanna Securities	3
ESTC	Elastic N.V.	ESTC	No	NYSE	4:00 PM	Wolverine Trading, LLC	3
EYE	National Vision Holdings, Inc.	EYE	No	NASDAQ	4:00 PM	Susquehanna Securities	3
FDP	Fresh Del Monte Produce Inc.	FDP	No	NYSE	4:00 PM	Wolverine Trading, LLC	3
FI	Frank's International N.V.	FI	No	NYSE	4:00 PM	Wolverine Trading, LLC	3
FNKO	Funko, Inc.	FNKO	No	NASDAQ	4:00 PM	Citadel Securities, LLC	3
FSK	FS KKR Capital Corp.	FSK	No	NYSE	4:00 PM	Citadel Securities, LLC	3
FSLY	Fastly, Inc.	FSLY	No	NYSE	4:00 PM	Two Sigma Securities, LLC	3
FTCH	Farfetch Limited	FTCH	No	NYSE	4:00 PM	Two Sigma Securities, LLC	3
GH	Guardant Health, Inc.	GH	No	NASDAQ	4:00 PM	Two Sigma Securities, LLC	4
GMS	GMS Inc.	GMS	No	NYSE	4:00 PM	Susquehanna Securities	4
HEI	HEICO Corporation	HEI	No	NYSE	4:00 PM	Wolverine Trading, LLC	4
HEXO	HEXO Corp.	HEXO	No	NYSE	4:00 PM	Morgan Stanley	4
IIPR	Innovative Industrial Properties, Inc.	IIPR	No	NYSE	4:00 PM	Citadel Securities, LLC	5
JMIA	Jumia Technologies AG	JMIA	No	NYSE	4:00 PM	Two Sigma Securities, LLC	5
LAUR	Laureate Education, Inc.	LAUR	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	5
LGFA	Lions Gate Entertainment Corp.	LGFA	No	NYSE	4:00 PM	Susquehanna Securities	5
LK	Luckin Coffee Inc.	LK	No	NASDAQ	4:00 PM	Citadel Securities, LLC	5
LTHM	Livent Corporation	LTHM	No	NYSE	4:00 PM	Wolverine Trading, LLC	5

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MAXR	Maxar Technologies Inc.	MAXR	No	NYSE	4:00 PM	Citadel Securities, LLC	6
MDGL	Madrigal Pharmaceuticals, Inc.	MDGL	No	NASDAQ	4:00 PM	Susquehanna Securities	6
MGLN	Magellan Health, Inc.	MGLN	No	NASDAQ	4:00 PM	Susquehanna Securities	6
MGNX	MacroGenics, Inc.	MGNX	No	NASDAQ	4:00 PM	Susquehanna Securities	6
MMSI	Merit Medical Systems, Inc.	MMSI	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	6
MRKR	Marker Therapeutics, Inc.	MRKR	No	NASDAQ	4:00 PM	Citadel Securities, LLC	6
MRNA	Moderna, Inc.	MRNA	No	NASDAQ	4:00 PM	Susquehanna Securities	6
NEO	NeoGenomics, Inc.	NEO	No	NASDAQ	4:00 PM	Citadel Securities, LLC	6
NERV	Minerva Neurosciences, Inc.	NERV	No	NASDAQ	4:00 PM	Susquehanna Securities	6
NICE	NICE Ltd.	NICE	No	NASDAQ	4:00 PM	Susquehanna Securities	6
NR	Newpark Resources Inc	NR	No	NYSE	4:00 PM	Citadel Securities, LLC	6
NVT	nVent Electric plc	NVT	No	NYSE	4:00 PM	Wolverine Trading, LLC	6
OILU	ProShares UltraPro 3x Crude Oil ETF	OILU	No	NYSE ARCA	4:00 PM	Susquehanna Securities	7
ONB	Old National Bancorp	ONB	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	7
ONCE	Spark Therapeutics, Inc.	ONCE	No	NASDAQ	4:00 PM	Morgan Stanley	7
PAM	Pampa Energía S.A.	PAM	No	NYSE	4:00 PM	Wolverine Trading, LLC	7
PAYS	PaySign, Inc.	PAYS	No	NASDAQ	4:00 PM	Morgan Stanley	7
PCTY	Paylocity Holding Corporation	PCTY	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	7
PD	PagerDuty, Inc.	PD	No	NYSE	4:00 PM	Susquehanna Securities	7
PLAN	Anaplan, Inc.	PLAN	No	NYSE	4:00 PM	Two Sigma Securities, LLC	7
PLT	Plantronics, Inc.	PLT	No	NYSE	4:00 PM	Wolverine Trading, LLC	7
PS	Pluralsight, Inc.	PS	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	7
PSN	Parsons Corporation	PSN	No	NYSE	4:00 PM	Susquehanna Securities	7
QTT	Qutoutiao Inc.	QTT	No	NASDAQ	4:00 PM	Susquehanna Securities	7
RVLV	Revolve Group, Inc.	RVLV	No	NYSE	4:00 PM	Susquehanna Securities	7
SDRL	Seadrill Limited	SDRL	No	NYSE	4:00 PM	Citadel Securities, LLC	8

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SKY	Skyline Champion Corporation	SKY	No	NYSE	4:00 PM	Wolverine Trading, LLC	8
SMAR	Smartsheet Inc.	SMAR	No	NYSE	4:00 PM	Susquehanna Securities	8
SRDX	Surmodics, Inc.	SRDX	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	8
STI	SunTrust Banks, Inc.	STI	Yes	NYSE	4:00 PM	Citadel Securities, LLC	8
STNE	StoneCo Ltd.	STNE	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	8
SVMK	SVMK Inc.	SVMK	No	NASDAQ	4:00 PM	Two Sigma Securities, LLC	8
SVRA	Savara Inc.	SVRA	No	NASDAQ	4:00 PM	Susquehanna Securities	8
TAK	Takeda Pharmaceutical Company Limited	TAK	No	NYSE	4:00 PM	Two Sigma Securities, LLC	8
TEUM	Pareteum Corporation	TEUM	No	NASDAQ	4:00 PM	Citadel Securities, LLC	8
TLRA	Telaria, Inc.	TLRA	No	NYSE	4:00 PM	Wolverine Trading, LLC	8
TME	Tencent Music Entertainment Group	TME	No	NYSE	4:00 PM	Two Sigma Securities, LLC	8
TOCA	Tocagen Inc.	TOCA	No	NASDAQ	4:00 PM	Citadel Securities, LLC	8
TYPE	Monotype Imaging Holdings Inc.	TYPE	No	NASDAQ	4:00 PM	Susquehanna Securities	8
UPLD	Upland Software, Inc.	UPLD	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	9
UPWK	Upwork Inc.	UPWK	No	NASDAQ	4:00 PM	Wolverine Trading, LLC	9
VEDL	Vedanta Limited	VEDL	No	NYSE	4:00 PM	Susquehanna Securities	9
VFF	Village Farms International, Inc.	VFF	No	NASDAQ	4:00 PM	Citadel Securities, LLC	9
VICI	VICI Properties Inc.	VICI	No	NYSE	4:00 PM	Susquehanna Securities	9
YETI	YETI Holdings, Inc.	YETI	No	NYSE	4:00 PM	Citadel Securities, LLC	10

Please contact MIAX Options Listings with any questions.

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