

The option classes listed below will begin trading on the MIAX Emerald Options Exchange at the start of trading on **Thursday, October 21, 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
AFIB	ACUTUS MEDICAL INC	AFIB	No	NASDAQ	4:00	Susquehanna Securities	1
AGL	AGILON HEALTH INC	AGL	No	NYSE	4:00	Citadel Securities, LLC	1
AGM	Federal Agricultural Mortgage Corp.	AGM	No	NYSE	4:00	Citadel Securities, LLC	1
AMBP	Ardagh Metal Packaging S.A.	AMBP	No	NYSE	4:00	Susquehanna Securities	1
ASLE	AERSALE CORPORATION	ASLE	No	NASDAQ	4:00	Wolverine Trading, LLC	1
BCDA	BIOCARDIA, INC	BCDA	No	NASDAQ	4:00	Citadel Securities, LLC	2
BITO	ProShares Bitcoin Strategy ETF	BITO	No	NYSE Arca	4:00	Citadel Securities, LLC	2
BROS	DUTCH BROS INC.	BROS	No	NYSE	4:00	Wolverine Trading, LLC	2
BRSP	BrightSpire Capital, Inc.	BRSP	No	NYSE	4:00	Wolverine Trading, LLC	2
CEI	CAMBER ENERGY, INC.	CEI	No	AMEX	4:00	Wolverine Trading, LLC	2
CLNN	CLENE INC	CLNN	No	NASDAQ	4:00	Susquehanna Securities	2
COUR	COURSERA, INC.	COUR	No	NYSE	4:00	Morgan Stanley	2
CPNG	COUPANG INC	CPNG	No	NYSE	4:00	IMC Financial Markets	2
CURV	TORRID HOLDINGS INC.	CURV	No	NYSE	4:00	Citadel Securities, LLC	2
CXM	SPRINKLR, INC.	CXM	No	NYSE	4:00	Wolverine Trading, LLC	2
CYCC	CYCLACEL PHARMACEUTICALS, INC.	CYCC	No	NASDAQ	4:00	Susquehanna Securities	2
DAVA	ENDAVAL PLC	DAVA	No	NYSE	4:00	Susquehanna Securities	3
DOCN	DIGITALOCEAN HOLDINGS, INC.	DOCN	No	NYSE	4:00	Wolverine Trading, LLC	3
DOLE	DOLE PLS	DOLE	No	NYSE	4:00	Susquehanna Securities	3
ECHO	Echo Global Logistics, Inc.	ECHO	No	NASDAQ	4:00	Susquehanna Securities	3
EDV	VANGUARD EXTENDED DURATION TREASURY ETF	EDV	No	NYSE Arca	4:00	Wolverine Trading, LLC	3

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ENVB	ENVERIC BIOSCIENCES, INC.	ENVB	No	NASDAQ	4:00	Citadel Securities, LLC	3
FCF	First Commonwealth Financial Corp	FCF	No	NYSE	4:00	Citadel Securities, LLC	3
FIGS	FIGS, INC.	FIGS	No	NYSE	4:00	Morgan Stanley	3
FKWL	FRANKLIN WIRELESS CORP.	FKWL	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FRSH	FRESHWORKS INC	FRSH	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FTCV	FINTECH ACQUISITION CORP	FTCV	No	NASDAQ	4:00	Citadel Securities, LLC	3
FTRP	FIELD TRIP HEALTH LTD	FTRP	No	NASDAQ	4:00	Susquehanna Securities	3
GLBE	GLOBAL ONLINE LTD	GLBE	No	NASDAQ	4:00	Morgan Stanley	4
GLMD	GALMED PHARMACEUTICALS LTD.	GLMD	No	NASDAQ	4:00	Citadel Securities, LLC	4
GWH	ESS Tech, Inc.	GWH	No	NYSE	4:00	Susquehanna Securities	4
GXO	GXO LOGISTICS INC	GXO	No	NYSE	4:00	Morgan Stanley	4
HBIO	Harvard Bioscience, Inc.	HBIO	No	NASDAQ	4:00	Wolverine Trading, LLC	4
HONE	HARBORONE BANCORP INC	HONE	No	NASDAQ	4:00	Citadel Securities, LLC	4
HRC	Hill-Rom Holdings, Inc.	HRC	No	NYSE	4:00	Susquehanna Securities	4
HTOO	FUSION FUEL GREEN PLC	HTOO	No	NASDAQ	4:00	Wolverine Trading, LLC	4
IDA	IDACORP, INC.	IDA	No	NYSE	4:00	Citadel Securities, LLC	5
IMMP	IMMUTEPLTD	IMMP	No	NASDAQ	4:00	Citadel Securities, LLC	5
ISUN	ISUN, INC.	ISUN	No	NASDAQ	4:00	Susquehanna Securities	5
KRA	Kraton Corporation	KRA	No	NYSE	4:00	Citadel Securities, LLC	5
KRBP	KIROMIC BIOPHARMA, INC.	KRBP	No	NASDAQ	4:00	Susquehanna Securities	5
KRYS	KRYSTAL BIOTECH, INC.	KRYS	No	NASDAQ	4:00	Susquehanna Securities	5
LMB	LIMBACH HOLDINGS, INC.	LMB	No	NASDAQ	4:00	Wolverine Trading, LLC	5
LWLG	LIGHTWAVE LOGIC, INC.	LWLG	No	NASDAQ	4:00	Citadel Securities, LLC	5
NAPA	DUCKHORN PORTFOLIO, INC.	NAPA	No	NYSE	4:00	Citadel Securities, LLC	6
NEON	NEONODE INC.	NEON	No	NASDAQ	4:00	Wolverine Trading, LLC	6

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NEXT	NEXTDECADE CORP.	NEXT	No	NASDAQ	4:00	Citadel Securities, LLC	6
NSPR	INSPIREMD, INC.	NSPR	No	NASDAQ	4:00	Susquehanna Securities	6
NXTD	Nxt-ID, Inc.	NXTD	No	NASDAQ	4:00	Susquehanna Securities	6
OIL	IPATH PURE BETA CRUDE OIL ETN	OIL	No	NYSE Arca	4:00	Citadel Securities, LLC	7
ONON	ON HOLDING AG CLASS A	ONON	No	NYSE	4:00	Citadel Securities, LLC	7
ONTX	ONCONOVA THERAPEUTICS INC.	ONTX	No	NASDAQ	4:00	Citadel Securities, LLC	7
OSCR	OSCAR HEALTH INC.	OSCR	No	NYSE	4:00	Citadel Securities, LLC	7
PATH	UIPATH INC	PATH	No	NYSE	4:00	Wolverine Trading, LLC	7
PSCE	INVESCO S&P SMALLCAP ENERGY ETF	PSCE	No	NASDAQ	4:00	Wolverine Trading, LLC	7
PTGX	PROTAGONIST THERAPEUTICS, INC.	PTGX	No	NASDAQ	4:00	Citadel Securities, LLC	7
PWSC	POWERSCHOOL HOLDINGS INC	PWSC	No	NYSE	4:00	Wolverine Trading, LLC	7
QADA	QAD Inc.	QADA	No	NASDAQ	4:00	Citadel Securities, LLC	7
QUBT	QUANTUM COMPUTING INC.	QUBT	No	NASDAQ	4:00	Susquehanna Securities	7
RAAS	CLOOPEN GROUP HOLDING LTD.	RAAS	No	NYSE	4:00	Wolverine Trading, LLC	7
RCAT	RED CAT HOLDINGS, INC.	RCAT	No	NASDAQ	4:00	Susquehanna Securities	7
RCMT	RCM Technologies, Inc.	RCMT	No	NASDAQ	4:00	Susquehanna Securities	7
RKLY	Rockley Photonics Holdings Limited	RKLY	No	NYSE	4:00	Citadel Securities, LLC	7
SBTX	SILVERBACK THERAPEUTICS, INC.	SBTX	No	NASDAQ	4:00	Citadel Securities, LLC	8
SNCY	SUN COUNTRY AIRLINES HOLDINGS, INC.	SNCY	No	NASDAQ	4:00	Morgan Stanley	8
SPHB	Invesco S&P 500 High Beta ETF	SPHB	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
SPOK	Spok Holdings, Inc.	SPOK	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TBBK	Bancorp Inc/DE	TBBK	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TOST	TOAST, INC	TOST	No	NYSE	4:00	Susquehanna Securities	8
UAMY	US Antimony Corp.	UAMY	No	AMEX	4:00	Susquehanna Securities	9
URNM	NORTHSHORE GLOBAL URANIUM MININGETF	URNM	No	NYSE Arca	4:00	Wolverine Trading, LLC	9

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VINO	GAUCHO GROUP HOLDINGS, INC.	VINO	No	NASDAQ	4:00	Citadel Securities, LLC	9
VRNA	VERONA PHARMA PLC	VRNA	No	NASDAQ	4:00	Susquehanna Securities	9
VSCO	VICTORIAS SECRET & CO	VSCO	No	NYSE	4:00	Wolverine Trading, LLC	9
VZIO	VIZIO HOLDING CORP	VZIO	No	NYSE	4:00	Susquehanna Securities	9
WEBR	WEBER, INC.	WEBR	No	NYSE	4:00	Citadel Securities, LLC	10
WKSP	WORKSPORT, LTD	WKSP	No	NASDAQ	4:00	Citadel Securities, LLC	10
WWD	Woodward, Inc.	WWD	No	NASDAQ	4:00	Susquehanna Securities	10
WYY	WIDEPOINT CORPORATION	WYY	No	AMEX	4:00	Susquehanna Securities	10
YALA	YALLA GROUP LIMITED	YALA	No	NYSE	4:00	Citadel Securities, LLC	10
YSG	YATSEN HOLDING LTD.	YSG	No	NYSE	4:00	Wolverine Trading, LLC	10

Please contact MIAX Options Listings with any questions.

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