

The option classes listed below will begin trading on the MIAX Emerald Options Exchange at the start of trading on **Monday, October 31, 2022**. 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	PLMM	Cloud
					Time		
ABOS	ACUMEN PHARMACEUTICALS, INC.	ABOS	No	NASDAQ	4:00	Susquehanna Securities	1
ALHC	ALIGNMENT HEALTHCARE INC	ALHC	No	NASDAQ	4:00	Wolverine Trading, LLC	1
ASND	Ascendis Pharma A/S	ASND	No	NASDAQ	4:00	Citadel Securities, LLC	1
BYRN	BYRNA TECHNOLOGIES INC.	BYRN	No	NASDAQ	4:00	Citadel Securities, LLC	2
DEN	DENBURY INC.	DEN	No	NYSE	4:00	Citadel Securities, LLC	3
DIBS	1STDIBS.COM, INC.	DIBS	No	NASDAQ	4:00	Citadel Securities, LLC	3
DTM	DT Midstream Inc.	DTM	No	NYSE	4:00	Wolverine Trading, LLC	3
ECOM	ChannelAdvisor Corp.	ECOM	No	NYSE	4:00	Susquehanna Securities	3
ERAS	ERASCA, INC.	ERAS	No	NASDAQ	4:00	Citadel Securities, LLC	3
FMS	Fresenius Medical Care AG & Co KGaA	FMS	No	NYSE	4:00	Susquehanna Securities	3
HGTY	HAGERTY INC	HGTY	No	NYSE	4:00	Wolverine Trading, LLC	4
IMRA	IMARA INC.	IMRA	No	NASDAQ	4:00	Citadel Securities, LLC	5

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing	PLMM	Cloud
					Time		
KRG	Kite Realty Group Trust	KRG	No	NYSE	4:00	Susquehanna Securities	5
LLAP	TERRAN ORBITAL CORPORATION	LLAP	No	NYSE	4:00	Susquehanna Securities	5
LOGC	LOGICBIO THERAPEUTICS, INC.	LOGC	No	NASDAQ	4:00	Susquehanna Securities	5
NIB	iPath Bloomberg Cocoa Subindex Total Return ETN	NIB	No	NYSE Arca	4:00	Wolverine Trading, LLC	6
PHO	Invesco Water Resources ETF	PHO	No	NASDAQ	4:00	Susquehanna Securities	7
PPTA	PERPETUA RESOURCES CORP.	PPTA	No	NASDAQ	4:00	Wolverine Trading, LLC	7
QBTS	D-WAVE QUANTUM INC.	QBTS	No	NYSE	4:00	Susquehanna Securities	7
RELL	Richardson Electronics Ltd	RELL	No	NASDAQ	4:00	Susquehanna Securities	7
RPAR	RPAR RISK PARITY	RPAR	No	NYSE Arca	4:00	Citadel Securities, LLC	7
SCHB	Schwab US Broad Market ETF	SCHB	No	NYSE Arca	4:00	Citadel Securities, LLC	8
SCPH	SCPHARMACEUTICALS, INC.	SCPH	No	NASDAQ	4:00	Susquehanna Securities	8
SEF	Short Financials ProShares	SEF	No	NYSE Arca	4:00	Citadel Securities, LLC	8
SGML	SIGMA LITHIUM CORP	SGML	No	NASDAQ	4:00	Wolverine Trading, LLC	8
STOK	STOKE THERAPEUTICS, INC.	STOK	No	NASDAQ	4:00	Citadel Securities, LLC	8

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					Time		
STSA	SATSUMA PHARMACEUTICALS, INC.	STSA	No	NASDAQ	4:00	Susquehanna Securities	8
THCH	TH International Limited	THCH	No	NASDAQ	4:00	Susquehanna Securities	8
THTX	THERATECHNOLOGIES INC.	THTX	No	NASDAQ	4:00	Citadel Securities, LLC	8
TYD	Direxion Daily 7 to 10 Year Treasury Bull 3X Shrs	TYD	No	NYSE Arca	4:00	Susquehanna Securities	8
ULE	ProShares Ultra Euro	ULE	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VTYX	VENTYX BIOSCIENCES, INC.	VTYX	No	NASDAQ	4:00	Susquehanna Securities	9

Please contact MIAX Options Listings with any questions.

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