



The option classes listed below will begin trading on the MIAX Emerald Exchange at the start of trading on **Monday, April 15, 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
AAC	AAC Holdings, Inc.	AAC	No	NYSE	4:00	Morgan Stanley	1
AAWW	Atlas Air Worldwide Holdings, Inc.	AAWW	No	NASDAQ	4:00	Wolverine Trading, LLC	1
ABEO	Abeona Therapeutics Inc.	ABEO	No	NASDAQ	4:00	Citadel Securities, LLC	1
ABG	Asbury Automotive Group Inc.	ABG	No	NYSE	4:00	Morgan Stanley	1
ABR	Arbor Realty Trust, Inc.	ABR	No	NYSE	4:00	Wolverine Trading, LLC	1
ABUS	Arbutus Biopharma Corporation	ABUS	No	NASDAQ	4:00	Morgan Stanley	1
ACHN	Achillion Pharmaceuticals, Inc.	ACHN	No	NASDAQ	4:00	Morgan Stanley	1
ACLS	Axcelis Technologies, Inc.	ACLS	No	NASDAQ	4:00	Morgan Stanley	1
ACM	AECOM	ACM	No	NYSE	4:00	Wolverine Trading, LLC	1
ACTG	Acacia Research Corporation	ACTG	No	NASDAQ	4:00	Morgan Stanley	1
ADAP	Adaptimmune Therapeutics plc	ADAP	No	NASDAQ	4:00	Citadel Securities, LLC	1
ADS	Alliance Data Systems Corporation	ADS	No	NYSE	4:00	IMC Financial Markets	1
ADTN	ADTRAN, Inc.	ADTN	No	NASDAQ	4:00	Citadel Securities, LLC	1
AEIS	Advanced Energy Industries, Inc.	AEIS	No	NASDAQ	4:00	Morgan Stanley	1
AEL	American Equity Investment Life Holding Company	AEL	No	NYSE	4:00	Wolverine Trading, LLC	1
AER	AerCap Holdings N.V.	AER	No	NYSE	4:00	IMC Financial Markets	1
AERI	Aerie Pharmaceuticals, Inc.	AERI	No	NASDAQ	4:00	Susquehanna Securities	1
AGCO	AGCO Corporation	AGCO	No	NYSE	4:00	Morgan Stanley	1



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
AGI	Alamos Gold Inc.	AGI	No	NYSE	4:00	Morgan Stanley	1
AGIO	Agios Pharmaceuticals, Inc.	AGIO	No	NASDAQ	4:00	Citadel Securities, LLC	1
AGQ	ProShares Ultra Silver	AGQ	No	NYSE Arca	4:00	Wolverine Trading, LLC	1
AGRX	Agile Therapeutics, Inc.	AGRX	No	NASDAQ	4:00	Susquehanna Securities	1
AHT	Ashford Hospitality Trust, Inc.	AHT	No	NYSE	4:00	Citadel Securities, LLC	1
AIMT	Aimmune Therapeutics, Inc.	AIMT	No	NASDAQ	4:00	Citadel Securities, LLC	1
AJRD	Aerojet Rocketdyne Holdings, Inc.	AJRD	No	NYSE	4:00	Wolverine Trading, LLC	1
AKAO	Achaogen, Inc.	AKAO	No	NASDAQ	4:00	Morgan Stanley	1
AL	Air Lease Corporation	AL	No	NYSE	4:00	Morgan Stanley	1
ALSN	Allison Transmission Holdings, Inc.	ALSN	No	NYSE	4:00	Wolverine Trading, LLC	1
ALV	Autoliv, Inc.	ALV	No	NYSE	4:00	Wolverine Trading, LLC	1
AMID	American Midstream Partners, LP	AMID	No	NYSE	4:00	Susquehanna Securities	1
AMKR	Amkor Technology, Inc.	AMKR	No	NASDAQ	4:00	Morgan Stanley	1
AMPE	Ampio Pharmaceuticals, Inc.	AMPE	No	AMEX	4:00	Morgan Stanley	1
AMSC	American Superconductor Corporation	AMSC	No	NASDAQ	4:00	Morgan Stanley	1
AMWD	American Woodmark Corporation	AMWD	No	NASDAQ	4:00	Citadel Securities, LLC	1
AN	AutoNation, Inc.	AN	No	NYSE	4:00	Morgan Stanley	1
ANDX	Andeavor Logistics LP	ANDX	No	NYSE	4:00	Susquehanna Securities	1
ANGI	ANGI Homeservices Inc.	ANGI	No	NASDAQ	4:00	Wolverine Trading, LLC	1
ANSS	ANSYS, Inc.	ANSS	No	NASDAQ	4:00	Wolverine Trading, LLC	1



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AON	Aon plc	AON	No	NYSE	4:00	Wolverine Trading, LLC	1
AOS	A.O. Smith Corporation	AOS	No	NYSE	4:00	Wolverine Trading, LLC	1
APD	Air Products And Chemicals, Inc.	APD	No	NYSE	4:00	Wolverine Trading, LLC	1
APH	Amphenol Corporation	APH	No	NYSE	4:00	Morgan Stanley	1
APLE	Apple Hospitality REIT, Inc.	APLE	No	NYSE	4:00	Citadel Securities, LLC	1
APOG	Apogee Enterprises, Inc.	APOG	No	NASDAQ	4:00	Morgan Stanley	1
APU	AmeriGas Partners, L.P.	APU	No	NYSE	4:00	Citadel Securities, LLC	1
AQMS	Aqua Metals, Inc.	AQMS	No	NASDAQ	4:00	Citadel Securities, LLC	1
ARCH	Arch Coal, Inc.	ARCH	No	NYSE	4:00	Susquehanna Securities	1
ARES	Ares Management Corporation	ARES	No	NYSE	4:00	Wolverine Trading, LLC	1
AROC	Archrock, Inc.	AROC	No	NYSE	4:00	Susquehanna Securities	1
ARW	Arrow Electronics, Inc.	ARW	No	NYSE	4:00	Wolverine Trading, LLC	1
ASH	Ashland Global Holdings Inc.	ASH	No	NYSE	4:00	Morgan Stanley	1
ASPS	Altisource Portfolio Solutions S.A.	ASPS	No	NASDAQ	4:00	Morgan Stanley	1
ASUR	Asure Software, Inc.	ASUR	No	NASDAQ	4:00	Susquehanna Securities	1
ATEN	A10 Networks, Inc.	ATEN	No	NYSE	4:00	Morgan Stanley	1
ATGE	Adtalem Global Education Inc.	ATGE	No	NYSE	4:00	Wolverine Trading, LLC	1
ATNM	Actinium Pharmaceuticals, Inc.	ATNM	No	AMEX	4:00	Susquehanna Securities	1
ATRA	Atara Biotherapeutics, Inc.	ATRA	No	NASDAQ	4:00	Citadel Securities, LLC	1
ATSG	Air Transport Services Group, Inc.	ATSG	No	NASDAQ	4:00	Susquehanna Securities	1
AUPH	Aurinia Pharmaceuticals Inc.	AUPH	No	NASDAQ	4:00	Susquehanna Securities	1
AVT	Avnet, Inc.	AVT	No	NASDAQ	4:00	Morgan Stanley	1
AVXL	Anavex Life Sciences Corp.	AVXL	No	NASDAQ	4:00	Citadel Securities, LLC	1
AWI	Armstrong World Industries, Inc.	AWI	No	NYSE	4:00	Citadel Securities, LLC	1
AWK	American Water Works Company, Inc.	AWK	No	NYSE	4:00	Wolverine Trading, LLC	1



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AX	Axos Financial, Inc.	AX	No	NYSE	4:00	Citadel Securities, LLC	1
AXGN	AxoGen, Inc.	AXGN	No	NASDAQ	4:00	Citadel Securities, LLC	1
AXGT	Axovant Sciences Ltd.	AXGT	No	NASDAQ	4:00	Morgan Stanley	1
AXS	AXIS Capital Holdings Limited	AXS	No	NYSE	4:00	Morgan Stanley	1
AZPN	Aspen Technology, Inc.	AZPN	No	NASDAQ	4:00	Susquehanna Securities	1
BAH	Booz Allen Hamilton Holding Corporation	BAH	No	NYSE	4:00	Citadel Securities, LLC	2
BAK	Braskem S.A.	BAK	No	NYSE	4:00	Wolverine Trading, LLC	2
BAM	Brookfield Asset Management Inc.	BAM	No	NYSE	4:00	Wolverine Trading, LLC	2
BC	Brunswick Corporation	BC	No	NYSE	4:00	Wolverine Trading, LLC	2
BCC	Boise Cascade Company	BCC	No	NYSE	4:00	Morgan Stanley	2
BCE	BCE Inc.	BCE	No	NYSE	4:00	Susquehanna Securities	2
BCEI	Bonanza Creek Energy, Inc.	BCEI	No	NYSE	4:00	Susquehanna Securities	2
BCRX	BioCryst Pharmaceuticas, Inc.	BCRX	Yes	NASDAQ	4:00	Susquehanna Securities	2
BECN	Beacon Roofing Supply, Inc.	BECN	No	NASDAQ	4:00	Morgan Stanley	2
BFR	BBVA Banco Frances S.A.	BFR	No	NYSE	4:00	Susquehanna Securities	2
BGCP	BGC Partners, Inc.	BGCP	No	NASDAQ	4:00	Morgan Stanley	2
BGNE	BeiGene, Ltd.	BGNE	No	NASDAQ	4:00	Citadel Securities, LLC	2
BIB	ProShares Ultra Nasdaq Biotechnology	BIB	No	NASDAQ	4:00	Citadel Securities, LLC	2
BIO	Bio-Rad Laboratories, Inc.	BIO	No	NYSE	4:00	Susquehanna Securities	2
BITA	Bitauto Holdings Limited	BITA	No	NYSE	4:00	Morgan Stanley	2
BJRI	BJ's Restaurants, Inc.	BJRI	No	NASDAQ	4:00	Citadel Securities, LLC	2
BKE	The Buckle, Inc.	BKE	No	NYSE	4:00	Morgan Stanley	2
BLCM	Bellicum Pharmaceuticals, Inc.	BLCM	No	NASDAQ	4:00	Citadel Securities, LLC	2



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BLDP	Ballard Power Systems Inc.	BLDP	No	NASDAQ	4:00	Susquehanna Securities	2
BLKB	Blackbaud, Inc.	BLKB	No	NASDAQ	4:00	Susquehanna Securities	2
BMO	Bank Of Montreal	BMO	No	NYSE	4:00	Wolverine Trading, LLC	2
BNO	United States Brent Oil Fund, LP	BNO	No	NYSE Arca	4:00	Wolverine Trading, LLC	2
BNS	The Bank Of Nova Scotia	BNS	No	NYSE	4:00	Wolverine Trading, LLC	2
BOLD	Audentes Therapeutics, Inc.	BOLD	No	NASDAQ	4:00	Citadel Securities, LLC	2
BOTZ	Global X Robotics & Artificial Intelligence ETF	BOTZ	No	NASDAQ	4:00	Citadel Securities, LLC	2
BPI	Bridgepoint Education, Inc.	BPI	No	NYSE	4:00	Morgan Stanley	2
BPOP	Popular, Inc.	BPOP	Yes	NASDAQ	4:00	Citadel Securities, LLC	2
BR	Broadridge Financial Solutions, Inc.	BR	No	NYSE	4:00	Wolverine Trading, LLC	2
BREW	Craft Brew Alliance, Inc.	BREW	No	NASDAQ	4:00	Wolverine Trading, LLC	2
BRFS	BRF S.A.	BRFS	No	NYSE	4:00	Morgan Stanley	2
BRS	Bristow Group, Inc.	BRS	No	NYSE	4:00	Morgan Stanley	2
BRX	Brixmor Property Group Inc.	BRX	No	NYSE	4:00	Citadel Securities, LLC	2
BTE	Baytex Energy Corp.	BTE	No	NYSE	4:00	Morgan Stanley	2
BTX	BioTime, Inc.	BTX	No	AMEX	4:00	Susquehanna Securities	2
BXMT	Blackstone Mortgage Trust, Inc.	BXMT	No	NYSE	4:00	Citadel Securities, LLC	2
BXP	Boston Properties, Inc.	BXP	No	NYSE	4:00	Citadel Securities, LLC	2
BZQ	Proshares Ultrashort MSCI Brazil Capped	BZQ	No	NYSE Arca	4:00	Citadel Securities, LLC	2
CACC	Credit Acceptance Corporation	CACC	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CAI	CAI International, Inc.	CAI	No	NYSE	4:00	Citadel Securities, LLC	2
CAL	Caleres, Inc.	CAL	No	NYSE	4:00	Morgan Stanley	2
CALA	Calithera Biosciences, Inc.	CALA	No	NASDAQ	4:00	Susquehanna Securities	2
CALM	Cal-Maine Foods, Inc.	CALM	No	NASDAQ	4:00	Morgan Stanley	2



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CALX	Calix, Inc.	CALX	No	NYSE	4:00	Citadel Securities, LLC	2
CAMP	CalAmp Corp.	CAMP	No	NASDAQ	4:00	Morgan Stanley	2
CARB	Carbonite, Inc.	CARB	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CASY	Casey's General Stores, Inc.	CASY	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CBAY	CymaBay Therapeutics, Inc.	CBAY	No	NASDAQ	4:00	Citadel Securities, LLC	2
CBIO	Catalyst Biosciences, Inc.	CBIO	No	NASDAQ	4:00	Citadel Securities, LLC	2
CBM	Cambrex Corporation	CBM	No	NYSE	4:00	Citadel Securities, LLC	2
CBPO	China Biologic Products Holdings, Inc.	CBPO	No	NASDAQ	4:00	Citadel Securities, LLC	2
CBRE	CBRE Group, Inc.	CBRE	No	NYSE	4:00	Wolverine Trading, LLC	2
CCLP	CSI Compressco LP	CCLP	No	NASDAQ	4:00	Susquehanna Securities	2
CCS	Century Communities, Inc.	CCS	No	NYSE	4:00	Susquehanna Securities	2
CCXI	ChemoCentryx, Inc.	CCXI	No	NASDAQ	4:00	Citadel Securities, LLC	2
CDK	CDK Global, Inc.	CDK	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CDMO	Avid Bioservices, Inc.	CDMO	No	NASDAQ	4:00	Susquehanna Securities	2
CEO	CNOOC Limited	CEO	No	NYSE	4:00	Wolverine Trading, LLC	2
CEQP	Crestwood Equity Partners LP	CEQP	No	NYSE	4:00	Morgan Stanley	2
CERS	Cerus Corporation	CERS	No	NASDAQ	4:00	Morgan Stanley	2
CGNX	Cognex Corporation	CGNX	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CHAD	Direxion Daily CSI 300 China A Share Bear 1X Shares	CHAD	No	NYSE Arca	4:00	Wolverine Trading, LLC	2
CHAU	Direxion Daily CSI 300 China A Share Bull 2X Shares	CHAU	No	NYSE Arca	4:00	Wolverine Trading, LLC	2
CHRS	Coherus BioSciences, Inc.	CHRS	No	NASDAQ	4:00	Citadel Securities, LLC	2
CHS	Chico's FAS, Inc.	CHS	No	NYSE	4:00	Citadel Securities, LLC	2
CLB	Core Laboratories N.V.	CLB	No	NYSE	4:00	IMC Financial Markets	2



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CLGX	CoreLogic, Inc.	CLGX	No	NYSE	4:00	Wolverine Trading, LLC	2
CLNE	Clean Energy Fuels Corp.	CLNE	No	NASDAQ	4:00	Morgan Stanley	2
CLSD	Clearside Biomedical, Inc.	CLSD	No	NASDAQ	4:00	Citadel Securities, LLC	2
CM	Canadian Imperial Bank Of Commerce	CM	No	NYSE	4:00	Wolverine Trading, LLC	2
CMC	Commercial Metals Company	CMC	No	NYSE	4:00	Susquehanna Securities	2
CMCM	Cheetah Mobile Inc.	CMCM	No	NYSE	4:00	Morgan Stanley	2
CMPR	Cimpres N.V.	CMPR	No	NASDAQ	4:00	Susquehanna Securities	2
CMRE	Costamare Inc.	CMRE	No	NYSE	4:00	Morgan Stanley	2
CMTL	Comtech Telecommunications Corp.	CMTL	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CNDT	Conduent Incorporated	CNDT	No	NYSE	4:00	Morgan Stanley	2
CNET	ChinaNet Online Holdings, Inc.	CNET	No	NASDAQ	4:00	Citadel Securities, LLC	2
CNHI	CNH Industrial N.V.	CNHI	No	NYSE	4:00	Morgan Stanley	2
COMM	CommScope Holding Company, Inc.	COMM	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CONE	CyrusOne Inc.	CONE	No	NASDAQ	4:00	Citadel Securities, LLC	2
COO	The Cooper Companies, Inc.	COO	No	NYSE	4:00	Wolverine Trading, LLC	2
CORN	Teucrium Corn Fund	CORN	No	NYSE Arca	4:00	Citadel Securities, LLC	2
CORV	Correvio Pharma Corp.	CORV	No	NASDAQ	4:00	Citadel Securities, LLC	2
COT	Cott Corporation	COT	No	NYSE	4:00	Morgan Stanley	2
CPG	Crescent Point Energy Corp.	CPG	No	NYSE	4:00	Morgan Stanley	2
CPRX	Catalyst Pharmaceuticals, Inc.	CPRX	No	NASDAQ	4:00	Citadel Securities, LLC	2
CQP	Cheniere Energy Partners, L.P.	CQP	No	AMEX	4:00	Susquehanna Securities	2
CRAY	Cray Inc	CRAY	No	NASDAQ	4:00	Morgan Stanley	2
CRI	Carter's , Inc.	CRI	No	NYSE	4:00	IMC Financial Markets	2
CRK	Comstock Resources, Inc.	CRK	No	NYSE	4:00	Morgan Stanley	2



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CRNT	Ceragon Networks Ltd.	CRNT	No	NASDAQ	4:00	Susquehanna Securities	2
CRR	CARBO Ceramics Inc.	CRR	No	NYSE	4:00	Morgan Stanley	2
CRTO	Criteo S.A.	CRTO	No	NASDAQ	4:00	Morgan Stanley	2
CSOD	Cornerstone OnDemand, Inc.	CSOD	No	NASDAQ	4:00	Morgan Stanley	2
CSTE	Caesarstone Ltd.	CSTE	No	NASDAQ	4:00	Morgan Stanley	2
CTAS	Cintas Corporation	CTAS	No	NASDAQ	4:00	IMC Financial Markets	2
CTRL	Control4 Corporation	CTRL	No	NASDAQ	4:00	Morgan Stanley	2
CTSO	Cytosorbents Corporation	CTSO	No	NASDAQ	4:00	Citadel Securities, LLC	2
CURE	Direxion Daily Healthcare Bull 3X Shares	CURE	No	NYSE Arca	4:00	Susquehanna Securities	2
CVA	Covanta Holding Corporation	CVA	No	NYSE	4:00	Susquehanna Securities	2
CVGW	Calavo Growers, Inc.	CVGW	No	NASDAQ	4:00	Susquehanna Securities	2
CWEN	Clearway Energy, Inc.	CWEN	No	NYSE	4:00	Wolverine Trading, LLC	2
CXW	CoreCivic, Inc.	CXW	No	NYSE	4:00	Morgan Stanley	2
CYOU	Changyou.com Limited	CYOU	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CYTK	Cytokinetics, Incorporated	CYTK	No	NASDAQ	4:00	Morgan Stanley	2
DAR	Darling Ingredients Inc.	DAR	No	NYSE	4:00	Wolverine Trading, LLC	3
DBC	Invesco DB Commodity Index Tracking Fund	DBC	No	NYSE Arca	4:15	Morgan Stanley	3
DBO	Invesco DB Oil Fund	DBO	No	NYSE Arca	4:15	Susquehanna Securities	3
DCP	DCP Midstream, LP	DCP	No	NYSE	4:00	Wolverine Trading, LLC	3
DDM	ProShares Ultra Dow30	DDM	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
DECK	Deckers Outdoor Corporation	DECK	No	NYSE	4:00	Wolverine Trading, LLC	3
DENN	Denny's Corporation	DENN	No	NASDAQ	4:00	Citadel Securities, LLC	3
DGX	Quest Diagnostics Incorporated	DGX	No	NYSE	4:00	Wolverine Trading, LLC	3



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DHT	DHT Holdings, Inc.	DHT	No	NYSE	4:00	Morgan Stanley	3
DLTH	Duluth Holdings Inc.	DLTH	No	NASDAQ	4:00	Wolverine Trading, LLC	3
DOX	Amdocs Limited	DOX	No	NASDAQ	4:00	Citadel Securities, LLC	3
DPLO	Diplomat Pharmacy, Inc.	DPLO	No	NYSE	4:00	IMC Financial Markets	3
DQ	Daqo New Energy Corp.	DQ	No	NYSE	4:00	Susquehanna Securities	3
DRN	Direxion Daily Real Estate Bull 3x Shares	DRN	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
DRV	Direxion Daily Real Estate Bear 3x Shares	DRV	No	NYSE Arca	4:00	Susquehanna Securities	3
DS	Drive Shack Inc.	DS	No	NYSE	4:00	Morgan Stanley	3
DSX	Diana Shipping Inc.	DSX	No	NYSE	4:00	Morgan Stanley	3
DTE	DTE Energy Company	DTE	No	NYSE	4:00	Citadel Securities, LLC	3
DVY	iShares Select Dividend ETF	DVY	No	NASDAQ	4:00	Wolverine Trading, LLC	3
DXD	ProShares UltraShort Dow30	DXD	No	NYSE Arca	4:00	Citadel Securities, LLC	3
DY	Dycom Industries, Inc.	DY	No	NYSE	4:00	IMC Financial Markets	3
ECPG	Encore Capital Group, Inc.	ECPG	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EDC	Direxion Daily MSCI Emerging Markets Bull 3X Shares	EDC	No	NYSE Arca	4:00	Citadel Securities, LLC	3
EDZ	Direxion Daily MSCI Emerging Markets Bear 3X Shares	EDZ	No	NYSE Arca	4:00	Susquehanna Securities	3
EEFT	Euronet Worldwide, Inc.	EEFT	No	NASDAQ	4:00	Citadel Securities, LLC	3
EFII	Electronics for Imaging, Inc.	EFII	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EGHT	8x8, Inc.	EGHT	No	NYSE	4:00	Susquehanna Securities	3
EGO	Eldorado Gold Corporation	EGO	No	NYSE	4:00	Susquehanna Securities	3
EGY	VAALCO Energy, Inc.	EGY	No	NYSE	4:00	Susquehanna Securities	3
EHC	Encompass Health Corporation	EHC	No	NYSE	4:00	Citadel Securities, LLC	3



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EIGI	Endurance International Group Holdings, Inc.	EIGI	No	NASDAQ	4:00	Morgan Stanley	3
ELF	e.l.f. Beauty, Inc.	ELF	No	NYSE	4:00	Citadel Securities, LLC	3
ELY	Callaway Golf Company	ELY	No	NYSE	4:00	Morgan Stanley	3
ENR	Energizer Holdings, Inc.	ENR	No	NYSE	4:00	Morgan Stanley	3
ENTA	Enanta Pharmaceuticals, Inc.	ENTA	No	NASDAQ	4:00	Morgan Stanley	3
ENTG	Entegris, Inc.	ENTG	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EPAY	Bottomline Technologies (de), Inc.	EPAY	No	NASDAQ	4:00	Susquehanna Securities	3
EPE	EP Energy Corporation	EPE	No	NYSE	4:00	Citadel Securities, LLC	3
EPR	EPR Properties	EPR	No	NYSE	4:00	Wolverine Trading, LLC	3
EQH	AXA Equitable Holdings, Inc.	EQH	No	NYSE	4:00	Citadel Securities, LLC	3
EQIX	Equinix, Inc.	EQIX	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EQR	Equity Residential	EQR	No	NYSE	4:00	Morgan Stanley	3
ERF	Enerplus Corporation	ERF	No	NYSE	4:00	Morgan Stanley	3
ERII	Energy Recovery, Inc.	ERII	No	NASDAQ	4:00	Citadel Securities, LLC	3
ERJ	Embraer S.A.	ERJ	No	NYSE	4:00	Wolverine Trading, LLC	3
ERY	Direxion Daily Energy Bear 3X Shares	ERY	No	NYSE Arca	4:00	Susquehanna Securities	3
ES	Eversource Energy	ES	No	NYSE	4:00	Morgan Stanley	3
ESNT	Essent Group Ltd.	ESNT	No	NYSE	4:00	Citadel Securities, LLC	3
ESS	Essex Property Trust, Inc.	ESS	No	NYSE	4:00	Wolverine Trading, LLC	3
ETH	Ethan Allen Interiors Inc.	ETH	No	NYSE	4:00	Wolverine Trading, LLC	3
EVH	Evolent Health, Inc.	EVH	No	NYSE	4:00	Wolverine Trading, LLC	3
EWU	iShares MSCI United Kingdom ETF	EWU	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
EXK	Endeavour Silver Corp.	EXK	No	NYSE	4:00	Citadel Securities, LLC	3



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EXPD	Expeditors International of Washington, Inc.	EXPD	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EZPW	EZCORP, Inc.	EZPW	No	NASDAQ	4:00	Morgan Stanley	3
FATE	Fate Therapeutics, Inc.	FATE	No	NASDAQ	4:00	Citadel Securities, LLC	3
FBHS	Fortune Brands Home & Security, Inc.	FBHS	No	NYSE	4:00	Morgan Stanley	3
FCEL	FuelCell Energy, Inc.	FCEL	No	NASDAQ	4:00	Morgan Stanley	3
FDN	First Trust Dow Jones Internet Index Fund	FDN	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
FDS	FactSet Research Systems Inc.	FDS	No	NYSE	4:00	Wolverine Trading, LLC	3
FGP	Ferrellgas Partners, L.P.	FGP	No	NYSE	4:00	Morgan Stanley	3
FHN	First Horizon National Corporation	FHN	No	NYSE	4:00	Citadel Securities, LLC	3
FII	Federated Investors, Inc.	FII	No	NYSE	4:00	Citadel Securities, LLC	3
FISV	Fiserv, Inc.	FISV	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FIVN	Five9, Inc.	FIVN	No	NASDAQ	4:00	Susquehanna Securities	3
FIZZ	National Beverage Corp.	FIZZ	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FLIR	FLIR Systems, Inc.	FLIR	No	NASDAQ	4:00	Susquehanna Securities	3
FLO	Flowers Foods, Inc.	FLO	No	NYSE	4:00	Morgan Stanley	3
FLS	Flowserve Corporation	FLS	No	NYSE	4:00	Morgan Stanley	3
FLWS	1-800-FLOWERS.Com, Inc.	FLWS	No	NASDAQ	4:00	Citadel Securities, LLC	3
FN	Fabrinet	FN	No	NYSE	4:00	Susquehanna Securities	3
FNF	Fidelity National Financial, Inc.	FNF	No	NYSE	4:00	Morgan Stanley	3
FORM	FormFactor, Inc.	FORM	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FPRX	Five Prime Therapeutics, Inc.	FPRX	No	NASDAQ	4:00	Susquehanna Securities	3
FRAC	Keane Group, Inc.	FRAC	No	NYSE	4:00	Susquehanna Securities	3
FRC	First Republic Bank	FRC	No	NYSE	4:00	Citadel Securities, LLC	3
FRPT	Freshpet, Inc.	FRPT	No	NASDAQ	4:00	Wolverine Trading, LLC	3



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
FSCT	Forescout Technologies, Inc.	FSCT	No	NASDAQ	4:00	Citadel Securities, LLC	3
FSM	Fortuna Silver Mines Inc.	FSM	No	NYSE	4:00	Morgan Stanley	3
FTD	FTD Companies, Inc.	FTD	No	NASDAQ	4:00	Citadel Securities, LLC	3
FTK	Flotek Industries, Inc.	FTK	No	NYSE	4:00	Morgan Stanley	3
FUN	Cedar Fair, L.P.	FUN	No	NYSE	4:00	Susquehanna Securities	3
FXB	ProShares UltraShort FTSE China 50	FXB	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
FXC	Invesco CurrencyShares Canadian Dollar Trust	FXC	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
FXF	Invesco CurrencyShares Swiss Franc Trust	FXF	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
GASL	Direxion Daily Natural Gas Related Bull 3X Shares	GASL	No	NYSE Arca	4:00	Citadel Securities, LLC	4
GBX	The Greenbrier Companies, Inc.	GBX	No	NYSE	4:00	IMC Financial Markets	4
GCI	Gannett Co., Inc.	GCI	No	NYSE	4:00	Susquehanna Securities	4
GCO	Genesco Inc.	GCO	No	NYSE	4:00	Susquehanna Securities	4
GDEN	Golden Entertainment, Inc.	GDEN	No	NASDAQ	4:00	Susquehanna Securities	4
GEL	Genesis Energy, L.P.	GEL	No	NYSE	4:00	Wolverine Trading, LLC	4
GEO	The GEO Group, Inc.	GEO	No	NYSE	4:00	Citadel Securities, LLC	4
GHDX	Genomic Health, Inc.	GHDX	No	NASDAQ	4:00	Citadel Securities, LLC	4
GLOB	Globant S.A.	GLOB	No	NYSE	4:00	Citadel Securities, LLC	4
GLRE	Greenlight Capital Re, Ltd.	GLRE	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GMED	Globus Medical, Inc.	GMED	No	NYSE	4:00	Susquehanna Securities	4
GNE	Genie Energy Ltd.	GNE	No	NYSE	4:00	Susquehanna Securities	4
GOGL	Golden Ocean Group Limited	GOGL	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GORO	Gold Resource Corporation	GORO	No	AMEX	4:00	Morgan Stanley	4



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
GPK	Graphic Packaging Holding Company	GPK	No	NYSE	4:00	Morgan Stanley	4
GPN	Global Payments Inc.	GPN	No	NYSE	4:00	Morgan Stanley	4
GREK	Global X MSCI Greece ETF	GREK	No	NYSE Arca	4:00	Morgan Stanley	4
GSAT	Globalstar, Inc.	GSAT	No	AMEX	4:00	Susquehanna Securities	4
GSM	Ferroglobe PLC	GSM	No	NASDAQ	4:00	Morgan Stanley	4
GSVC	GSV Capital Corp.	GSVC	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GTES	Gates Industrial Corporation plc	GTES	No	NYSE	4:00	Citadel Securities, LLC	4
GTLS	Chart Industries, Inc.	GTLS	No	NASDAQ	4:00	Morgan Stanley	4
GTN	Gray Television, Inc.	GTN	No	NYSE	4:00	Wolverine Trading, LLC	4
GWRE	Guidewire Software, Inc.	GWRE	No	NYSE	4:00	Morgan Stanley	4
HA	Hawaiian Holdings, Inc.	HA	No	NASDAQ	4:00	Citadel Securities, LLC	4
HABT	The Habit Restaurants, Inc.	HABT	No	NASDAQ	4:00	Morgan Stanley	4
HACK	ETFMG Prime Cyber Security ETF	HACK	No	NYSE Arca	4:00	Morgan Stanley	4
HALO	Halozyme Therapeutics, Inc.	HALO	No	NASDAQ	4:00	Morgan Stanley	4
HCC	Warrior Met Coal, Inc.	HCC	No	NYSE	4:00	Wolverine Trading, LLC	4
HCI	HCI Group, Inc.	HCI	No	NYSE	4:00	Citadel Securities, LLC	4
HDB	HDFC Bank Limited	HDB	No	NYSE	4:00	Wolverine Trading, LLC	4
HDS	HD Supply Holdings, Inc.	HDS	No	NASDAQ	4:00	Morgan Stanley	4
HDSN	Hudson Technologies, Inc.	HDSN	No	NASDAQ	4:00	Citadel Securities, LLC	4
HEDJ	Wisdomtree Europe Hedged Equity Fund	HEDJ	No	NYSE Arca	4:00	Morgan Stanley	4
HEES	H&E Equipment Services, Inc.	HEES	No	NASDAQ	4:00	Citadel Securities, LLC	4
HGV	Hilton Grand Vacations Inc.	HGV	No	NYSE	4:00	Susquehanna Securities	4
HII	Huntington Ingalls Industries, Inc.	HII	No	NYSE	4:00	Wolverine Trading, LLC	4
HK	Halcon Resources Corporation	HK	No	NYSE	4:00	Morgan Stanley	4



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
HLX	Helix Energy Solutions Group, Inc.	HLX	No	NYSE	4:00	Citadel Securities, LLC	4
HMC	Honda Motor Co.,Ltd.	HMC	No	NYSE	4:00	Morgan Stanley	4
HMSY	HMS Holdings Corp.	HMSY	No	NASDAQ	4:00	Wolverine Trading, LLC	4
HOLX	Hologic, Inc.	HOLX	No	NASDAQ	4:00	IMC Financial Markets	4
HOS	Hornbeck Offshore Services, Inc.	HOS	No	NYSE	4:00	Citadel Securities, LLC	4
HPT	Hospitality Properties Trust	HPT	No	NASDAQ	4:00	Wolverine Trading, LLC	4
HQY	HealthEquity, Inc.	HQY	No	NASDAQ	4:00	Susquehanna Securities	4
HRC	Hill-Rom Holdings, Inc.	HRC	No	NYSE	4:00	Wolverine Trading, LLC	4
HRI	Herc Holdings Inc.	HRI	No	NYSE	4:00	Susquehanna Securities	4
HRS	Harris Corporation	HRS	No	NYSE	4:00	Wolverine Trading, LLC	4
HRTX	Heron Therapeutics, Inc.	HRTX	No	NASDAQ	4:00	Morgan Stanley	4
HSC	Harsco Corporation	HSC	No	NYSE	4:00	Citadel Securities, LLC	4
HSII	Heidrick & Struggles International, Inc.	HSII	No	NASDAQ	4:00	Wolverine Trading, LLC	4
HST	Host Hotels & Resorts, Inc.	HST	No	NYSE	4:00	Morgan Stanley	4
IDT	IDT Corporation	IDT	No	NYSE	4:00	Wolverine Trading, LLC	5
IEMG	iShares Core MSCI Emerging Markets ETF	IEMG	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IEP	Icahn Enterprises, L.P.	IEP	No	NASDAQ	4:00	Wolverine Trading, LLC	5
IFF	International Flavors & Fragrances Inc.	IFF	No	NYSE	4:00	Wolverine Trading, LLC	5
IIVI	II-VI Incorporated	IIVI	No	NASDAQ	4:00	Citadel Securities, LLC	5
IJH	iShares Core S&P Mid-Cap ETF	IJH	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IJR	iShares Core S&P Small-Cap ETF	IJR	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IMAX	IMAX Corporation	IMAX	No	NYSE	4:00	Morgan Stanley	5



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
IMMR	Immersion Corporation	IMMR	No	NASDAQ	4:00	Wolverine Trading, LLC	5
INAP	Internap Corporation	INAP	No	NASDAQ	4:00	Citadel Securities, LLC	5
INDL	Direxion Daily MSCI India Bull 3x Shares	INDL	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
INFI	Infinity Pharmaceuticals, Inc.	INFI	No	NASDAQ	4:00	Citadel Securities, LLC	5
INGN	Inogen, Inc.	INGN	No	NASDAQ	4:00	Citadel Securities, LLC	5
INGR	Ingredion Incorporated	INGR	No	NYSE	4:00	Wolverine Trading, LLC	5
INOV	Inovalon Holdings, Inc.	INOV	No	NASDAQ	4:00	Citadel Securities, LLC	5
INSY	INSYS Therapeutics, Inc.	INSY	No	NASDAQ	4:00	Morgan Stanley	5
INXN	InterXion Holding N.V.	INXN	No	NYSE	4:00	Morgan Stanley	5
IOVA	iovance Biotherapeutics, Inc.	IOVA	No	NASDAQ	4:00	Susquehanna Securities	5
IPGP	IPG Photonics Corporation	IPGP	No	NASDAQ	4:00	IMC Financial Markets	5
IPHI	Inphi Corporation	IPHI	No	NYSE	4:00	Susquehanna Securities	5
IPI	Intrepid Potash, Inc.	IPI	No	NYSE	4:00	Morgan Stanley	5
IRWD	Ironwood Pharmaceuticals, Inc.	IRWD	No	NASDAQ	4:00	Morgan Stanley	5
ISBC	Investors Bancorp, Inc.	ISBC	No	NASDAQ	4:00	Wolverine Trading, LLC	5
ITA	iShares U.S. Aerospace & Defense ETF	ITA	No	BATS	4:00	Susquehanna Securities	5
IWD	iShares Russell 1000 Value ETF	IWD	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IWN	iShares Russell 2000 Value ETF	IWN	No	NYSE Arca	4:15	Wolverine Trading, LLC	5
JAG	Jagged Peak Energy Inc.	JAG	No	NYSE	4:00	Susquehanna Securities	5
JBHT	J.B. Hunt Transport Services, Inc.	JBHT	No	NASDAQ	4:00	Morgan Stanley	5
JBT	John Bean Technologies Corporation	JBT	No	NYSE	4:00	Citadel Securities, LLC	5
JCOM	j2 Global, Inc.	JCOM	No	NASDAQ	4:00	Wolverine Trading, LLC	5
JKHY	Jack Henry & Associates, Inc.	JKHY	No	NASDAQ	4:00	Citadel Securities, LLC	5
JLL	Jones Lang LaSalle Incorporated	JLL	No	NYSE	4:00	Wolverine Trading, LLC	5



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
JMEI	Jumei International Holding Limited	JMEI	No	NYSE	4:00	Morgan Stanley	5
JNCE	Jounce Therapeutics, Inc.	JNCE	No	NASDAQ	4:00	Citadel Securities, LLC	5
JOE	The St. Joe Company	JOE	No	NYSE	4:00	Morgan Stanley	5
KAR	KAR Auction Services, Inc.	KAR	No	NYSE	4:00	Wolverine Trading, LLC	5
KBR	KBR, Inc.	KBR	No	NYSE	4:00	Citadel Securities, LLC	5
KEYW	The KeyW Holding Corporation	KEYW	No	NASDAQ	4:00	Morgan Stanley	5
KFY	Korn Ferry	KFY	No	NYSE	4:00	Citadel Securities, LLC	5
KMT	Kennametal Inc.	KMT	No	NYSE	4:00	Wolverine Trading, LLC	5
KNOP	KNOT Offshore Partners LP	KNOP	No	NYSE	4:00	Wolverine Trading, LLC	5
KOLD	ProShares UltraShort Bloomberg Natural Gas	KOLD	No	NYSE Arca	4:00	Citadel Securities, LLC	5
KPTI	Karyopharm Therapeutics Inc.	KPTI	No	NASDAQ	4:00	Citadel Securities, LLC	5
KRNT	Kornit Digital Ltd.	KRNT	No	NASDAQ	4:00	Citadel Securities, LLC	5
KRO	Kronos Worldwide, Inc.	KRO	No	NYSE	4:00	Morgan Stanley	5
L	Loews Corporation	L	No	NYSE	4:00	Wolverine Trading, LLC	5
LAD	Lithia Motors, Inc.	LAD	No	NYSE	4:00	Citadel Securities, LLC	5
LADR	Ladder Capital Corp	LADR	No	NYSE	4:00	Citadel Securities, LLC	5
LAZ	Lazard Ltd	LAZ	No	NYSE	4:00	IMC Financial Markets	5
LBRDK	Liberty Broadband Corporation	LBRDK	No	NASDAQ	4:00	Susquehanna Securities	5
LBTYA	Liberty Global Plc	LBTYA	No	NASDAQ	4:00	Morgan Stanley	5
LEG	Leggett & Platt, Incorporated	LEG	No	NYSE	4:00	Morgan Stanley	5
LFC	China Life Insurance Company Limited	LFC	No	NYSE	4:00	Citadel Securities, LLC	5
LH	Laboratory Corporation of America Holdings	LH	No	NYSE	4:00	Wolverine Trading, LLC	5
LHCG	LHC Group, Inc.	LHCG	No	NASDAQ	4:00	Citadel Securities, LLC	5



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
LII	Lennox International Inc.	LII	No	NYSE	4:00	IMC Financial Markets	5
LIT	Global X Lithium & Battery Tech ETF	LIT	No	NYSE Arca	4:00	Morgan Stanley	5
LLL	L3 Technologies, Inc.	LLL	No	NYSE	4:00	Morgan Stanley	5
LLNW	Limelight Networks, Inc.	LLNW	No	NASDAQ	4:00	Morgan Stanley	5
LM	Legg Mason, Inc.	LM	No	NYSE	4:00	Wolverine Trading, LLC	5
LNN	Lindsay Corporation	LNN	No	NYSE	4:00	Wolverine Trading, LLC	5
LOGI	Logitech International S.A.	LOGI	No	NASDAQ	4:00	Susquehanna Securities	5
LOGM	LogMeIn, Inc.	LOGM	No	NASDAQ	4:00	IMC Financial Markets	5
LOPE	Grand Canyon Education, Inc.	LOPE	No	NASDAQ	4:00	Wolverine Trading, LLC	5
LPL	LG Display Co., Ltd.	LPL	No	NYSE	4:00	Morgan Stanley	5
LPLA	LPL Financial Holdings Inc.	LPLA	No	NASDAQ	4:00	Citadel Securities, LLC	5
LPSN	LivePerson, Inc.	LPSN	No	NASDAQ	4:00	Susquehanna Securities	5
LSCC	Lattice Semiconductor Corporation	LSCC	No	NASDAQ	4:00	Susquehanna Securities	5
LSI	Life Storage, Inc.	LSI	No	NYSE	4:00	Citadel Securities, LLC	5
LSTR	Landstar System, Inc.	LSTR	No	NASDAQ	4:00	Susquehanna Securities	5
LW	Lamb Weston Holdings, Inc.	LW	No	NYSE	4:00	Susquehanna Securities	5
LXRX	Lexicon Pharmaceuticals, Inc.	LXRX	No	NASDAQ	4:00	Susquehanna Securities	5
LYG	Lloyds Banking Group plc	LYG	No	NYSE	4:00	Morgan Stanley	5
LZB	La-Z-Boy Incorporated	LZB	No	NYSE	4:00	Citadel Securities, LLC	5
MAA	Mid-America Apartment Communities, Inc.	MAA	No	NYSE	4:00	Wolverine Trading, LLC	6
MAG	MAG Silver Corp.	MAG	No	AMEX	4:00	Citadel Securities, LLC	6
MAN	ManpowerGroup Inc.	MAN	No	NYSE	4:00	Wolverine Trading, LLC	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
MANH	Manhattan Associates, Inc.	MANH	No	NASDAQ	4:00	Morgan Stanley	6
MARK	Remark Holdings, Inc.	MARK	No	NASDAQ	4:00	Citadel Securities, LLC	6
MASI	Masimo Corporation	MASI	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MBUU	Malibu Boats, Inc.	MBUU	No	NASDAQ	4:00	Citadel Securities, LLC	6
MDC	M.D.C. Holdings, Inc.	MDC	No	NYSE	4:00	Morgan Stanley	6
MDRX	Allscripts Healthcare Solutions, Inc.	MDRX	No	NASDAQ	4:00	Susquehanna Securities	6
MDSO	Medidata Solutions, Inc.	MDSO	No	NASDAQ	4:00	Morgan Stanley	6
MED	Medifast, Inc.	MED	No	NYSE	4:00	Citadel Securities, LLC	6
MFGP	Micro Focus International plc	MFGP	No	NYSE	4:00	Citadel Securities, LLC	6
MGI	MoneyGram International, Inc.	MGI	No	NASDAQ	4:00	Morgan Stanley	6
MHLD	Maiden Holdings, Ltd.	MHLD	No	NASDAQ	4:00	Citadel Securities, LLC	6
MIDD	The Middleby Corporation	MIDD	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MITK	Mitek Systems, Inc.	MITK	No	NASDAQ	4:00	Susquehanna Securities	6
MKSI	MKS Instruments, Inc.	MKSI	No	NASDAQ	4:00	Susquehanna Securities	6
MLHR	Herman Miller, Inc.	MLHR	No	NASDAQ	4:00	Citadel Securities, LLC	6
MMC	Marsh & McLennan Companies, Inc.	MMC	No	NYSE	4:00	Wolverine Trading, LLC	6
MMLP	Martin Midstream Partners L.P.	MMLP	No	NASDAQ	4:00	Susquehanna Securities	6
MMYT	MakeMyTrip Limited	MMYT	No	NASDAQ	4:00	Citadel Securities, LLC	6
MNTA	Momemta Pharmaceuticals, Inc.	MNTA	No	NASDAQ	4:00	Susquehanna Securities	6
MOH	Molina Healthcare, Inc.	MOH	No	NYSE	4:00	Wolverine Trading, LLC	6
MOV	Movado Group, Inc.	MOV	No	NYSE	4:00	Citadel Securities, LLC	6
MPW	Medical Properties Trust, Inc.	MPW	No	NYSE	4:00	Morgan Stanley	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
MRCY	Mercury Systems, Inc.	MRCY	No	NASDAQ	4:00	Susquehanna Securities	6
MSCI	MSCI Inc	MSCI	No	NYSE	4:00	Wolverine Trading, LLC	6
MSG	The Madison Square Garden Company	MSG	No	NYSE	4:00	Wolverine Trading, LLC	6
MSI	Motorola Solutions, Inc.	MSI	Yes	NYSE	4:00	Citadel Securities, LLC	6
MSM	MSC Industrial Direct Co., Inc.	MSM	No	NYSE	4:00	Susquehanna Securities	6
MTB	M & T Bank Corporation	MTB	No	NYSE	4:00	IMC Financial Markets	6
MTDR	Matador Resources Company	MTDR	No	NYSE	4:00	Morgan Stanley	6
MTH	Meritage Homes Corporation	MTH	No	NYSE	4:00	Morgan Stanley	6
MTN	Vail Resorts, Inc.	MTN	No	NYSE	4:00	Citadel Securities, LLC	6
MTOR	Meritor, Inc.	MTOR	No	NYSE	4:00	Morgan Stanley	6
MTRX	Matrix Service Company	MTRX	No	NASDAQ	4:00	Citadel Securities, LLC	6
MTSI	MACOM Technology Solutions Holdings, Inc.	MTSI	No	NASDAQ	4:00	Citadel Securities, LLC	6
MTW	The Manitowoc Company, Inc.	MTW	No	NYSE	4:00	Morgan Stanley	6
MVIS	MicroVision, Inc.	MVIS	No	NASDAQ	4:00	Morgan Stanley	6
MX	MagnaChip Semiconductor Corporation	MX	No	NYSE	4:00	Citadel Securities, LLC	6
NANO	Nanometrics Incorporated	NANO	No	NASDAQ	4:00	Susquehanna Securities	6
NBRV	Nabriva Therapeutics plc	NBRV	No	NASDAQ	4:00	Citadel Securities, LLC	6
NCMI	National CineMedia, Inc.	NCMI	No	NASDAQ	4:00	Citadel Securities, LLC	6
NCS	NCI Building Systems, Inc.	NCS	No	NYSE	4:00	Citadel Securities, LLC	6
NDLS	Noodles & Company	NDLS	No	NASDAQ	4:00	Morgan Stanley	6
NFG	National Fuel Gas Company	NFG	No	NYSE	4:00	Susquehanna Securities	6
NG	NovaGold Resources Inc.	NG	No	AMEX	4:00	Morgan Stanley	6
NGVC	Natural Grocers by Vitamin Cottage, Inc.	NGVC	No	NYSE	4:00	Citadel Securities, LLC	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
NHI	National Health Investors, Inc.	NHI	No	NYSE	4:00	Citadel Securities, LLC	6
NI	NiSource Inc.	NI	No	NYSE	4:00	Morgan Stanley	6
NK	NantKwest, Inc.	NK	No	NASDAQ	4:00	Citadel Securities, LLC	6
NLNK	NewLink Genetics Corporation	NLNK	No	NASDAQ	4:00	Morgan Stanley	6
NMM	Navios Maritime Partners L.P.	NMM	No	NYSE	4:00	Morgan Stanley	6
NS	NuStar Energy L.P.	NS	No	NYSE	4:00	Citadel Securities, LLC	6
NSP	Insperty, Inc.	NSP	No	NYSE	4:00	Susquehanna Securities	6
NTLA	Intellia Therapeutics, Inc.	NTLA	No	NASDAQ	4:00	Citadel Securities, LLC	6
NTRS	Northern Trust Corporation	NTRS	No	NASDAQ	4:00	Wolverine Trading, LLC	6
NTWK	NetSol Technologies, Inc.	NTWK	No	NASDAQ	4:00	Citadel Securities, LLC	6
NUVA	NuVasive, Inc.	NUVA	No	NASDAQ	4:00	Susquehanna Securities	6
NVGS	Navigator Holdings Ltd.	NVGS	No	NYSE	4:00	Morgan Stanley	6
NVRO	Nevro Corp.	NVRO	No	NYSE	4:00	Citadel Securities, LLC	6
NXGN	NextGen Healthcare, Inc.	NXGN	No	NASDAQ	4:00	Morgan Stanley	6
NYMX	Nymox Pharmaceutical Corporation	NYMX	No	NASDAQ	4:00	Morgan Stanley	6
OAK	Oaktree Capital Group, LLC	OAK	No	NYSE	4:00	Citadel Securities, LLC	7
OCUL	Ocular Therapeutix, Inc.	OCUL	No	NASDAQ	4:00	Citadel Securities, LLC	7
ODFL	Old Dominion Freight Line, Inc.	ODFL	No	NASDAQ	4:00	Wolverine Trading, LLC	7
OFG	OFG Bancorp	OFG	No	NYSE	4:00	Susquehanna Securities	7
OI	Owens-Illinois, Inc.	OI	No	NYSE	4:00	Morgan Stanley	7
OII	Oceaneering International, Inc.	OII	No	NYSE	4:00	Citadel Securities, LLC	7
OMEX	Odyssey Marine Exploration, Inc.	OMEX	No	NASDAQ	4:00	Morgan Stanley	7
OMF	OneMain Holdings, Inc.	OMF	No	NYSE	4:00	Wolverine Trading, LLC	7
OMI	Owens & Minor, Inc.	OMI	No	NYSE	4:00	Susquehanna Securities	7



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
ORC	Orchid Island Capital, Inc.	ORC	No	NYSE	4:00	Citadel Securities, LLC	7
OSIS	OSI Systems, Inc.	OSIS	No	NASDAQ	4:00	Wolverine Trading, LLC	7
OSK	Oshkosh Corporation	OSK	No	NYSE	4:00	Citadel Securities, LLC	7
OTEX	Open Text Corporation	OTEX	No	NASDAQ	4:00	IMC Financial Markets	7
OUT	Outfront Media Inc.	OUT	No	NYSE	4:00	Wolverine Trading, LLC	7
OXM	Oxford Industries, Inc.	OXM	No	NYSE	4:00	Citadel Securities, LLC	7
OZM	Och-Ziff Capital Management Group LLC	OZM	No	NYSE	4:00	Morgan Stanley	7
PACW	PacWest Bancorp	PACW	No	NASDAQ	4:00	Wolverine Trading, LLC	7
PBA	Pembina Pipeline Corporation	PBA	No	NYSE	4:00	Wolverine Trading, LLC	7
PBCT	People's United Financial, Inc.	PBCT	No	NASDAQ	4:00	Wolverine Trading, LLC	7
PBPB	Potbelly Corporation	PBPB	No	NASDAQ	4:00	Morgan Stanley	7
PDCO	Patterson Companies, Inc.	PDCO	No	NASDAQ	4:00	Morgan Stanley	7
PEG	Public Service Enterprise Group Incorporated	PEG	No	NYSE	4:00	Morgan Stanley	7
PEIX	Pacific Ethanol, Inc.	PEIX	No	NASDAQ	4:00	Morgan Stanley	7
PER	SandRidge Permian Trust	PER	No	NYSE	4:00	Morgan Stanley	7
PES	Pioneer Energy Services Corp.	PES	No	NYSE	4:00	Susquehanna Securities	7
PETS	PetMed Express, Inc.	PETS	No	NASDAQ	4:00	Susquehanna Securities	7
PFG	Principal Financial Group, Inc.	PFG	No	NASDAQ	4:00	Susquehanna Securities	7
PI	Impinj, Inc.	PI	No	NASDAQ	4:00	Morgan Stanley	7
PIR	Pier 1 Imports, Inc.	PIR	No	NYSE	4:00	Morgan Stanley	7
PKI	PerkinElmer, Inc.	PKI	No	NYSE	4:00	Wolverine Trading, LLC	7
PLD	Prologis, Inc.	PLD	No	NYSE	4:00	IMC Financial Markets	7
PLX	Protalix BioTherapeutics, Inc.	PLX	No	AMEX	4:00	Susquehanna Securities	7



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
PNR	Pentair plc	PNR	No	NYSE	4:00	IMC Financial Markets	7
PODD	Insulet Corporation	PODD	No	NASDAQ	4:00	Wolverine Trading, LLC	7
POOL	Pool Corporation	POOL	No	NASDAQ	4:00	Wolverine Trading, LLC	7
PRFT	Perficient, Inc.	PRFT	No	NASDAQ	4:00	Citadel Securities, LLC	7
PRGS	Progress Software Corporation	PRGS	No	NASDAQ	4:00	Morgan Stanley	7
PRLB	Proto Labs, Inc.	PRLB	No	NYSE	4:00	Citadel Securities, LLC	7
PRO	PROS Holdings, Inc.	PRO	No	NYSE	4:00	Citadel Securities, LLC	7
PRSP	Perspecta Inc.	PRSP	No	NYSE	4:00	Citadel Securities, LLC	7
PRTA	Prothena Corporation plc	PRTA	No	NASDAQ	4:00	Citadel Securities, LLC	7
PSEC	Prospect Capital Corporation	PSEC	No	NASDAQ	4:00	Susquehanna Securities	7
PSO	Pearson plc	PSO	No	NYSE	4:00	Citadel Securities, LLC	7
PSTI	Pluristem Therapeutics Inc.	PSTI	No	NASDAQ	4:00	Morgan Stanley	7
PXLW	Pixelworks, Inc.	PXLW	No	NASDAQ	4:00	Susquehanna Securities	7
QDEL	Quidel Corporation	QDEL	No	NASDAQ	4:00	Wolverine Trading, LLC	7
QNST	QuinStreet, Inc.	QNST	No	NASDAQ	4:00	Citadel Securities, LLC	7
QRTEA	Qurate Retail, Inc.	QRTEA	No	NASDAQ	4:00	Morgan Stanley	7
QURE	uniQure N.V.	QURE	No	NASDAQ	4:00	Citadel Securities, LLC	7
R	Ryder System, Inc.	R	No	NYSE	4:00	IMC Financial Markets	7
RARE	Ultragenyx Pharmaceutical Inc.	RARE	No	NASDAQ	4:00	Citadel Securities, LLC	7
RDN	Radian Group Inc.	RDN	No	NYSE	4:00	Morgan Stanley	7
RDWR	Radware Ltd.	RDWR	No	NASDAQ	4:00	Morgan Stanley	7
REGI	Renewable Energy Group, Inc.	REGI	No	NASDAQ	4:00	Morgan Stanley	7
REI	Ring Energy, Inc.	REI	No	AMEX	4:00	Susquehanna Securities	7
REM	iShares Mortgage Real Estate Capped ETF	REM	No	BATS	4:00	Susquehanna Securities	7
RENN	Renren Inc.	RENN	No	NYSE	4:00	Morgan Stanley	7
RES	RPC, Inc.	RES	No	NYSE	4:00	Citadel Securities, LLC	7



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
RFP	Resolute Forest Products Inc.	RFP	No	NYSE	4:00	Citadel Securities, LLC	7
RGEN	Repligen Corporation	RGEN	No	NASDAQ	4:00	Morgan Stanley	7
RGR	Sturm, Ruger & Company, Inc.	RGR	No	NYSE	4:00	Wolverine Trading, LLC	7
RHI	Robert Half International, Inc.	RHI	No	NYSE	4:00	Morgan Stanley	7
RLJ	RLJ Lodging Trust	RLJ	No	NYSE	4:00	Susquehanna Securities	7
RMBS	Rambus Inc.	RMBS	Yes	NASDAQ	4:00	IMC Financial Markets	7
RMTI	Rockwell Medical, Inc.	RMTI	No	NASDAQ	4:00	Citadel Securities, LLC	7
ROL	Rollins, Inc.	ROL	No	NYSE	4:00	Citadel Securities, LLC	7
ROM	ProShares Ultra Technology	ROM	No	NYSE Arca	4:00	Susquehanna Securities	7
ROP	Roper Technologies, Inc.	ROP	No	NYSE	4:00	Susquehanna Securities	7
RP	RealPage, Inc.	RP	No	NASDAQ	4:00	Citadel Securities, LLC	7
RPD	Rapid7, Inc.	RPD	No	NASDAQ	4:00	Susquehanna Securities	7
RPM	RPM International Inc.	RPM	No	NYSE	4:00	Wolverine Trading, LLC	7
RS	Reliance Steel & Aluminum Co.	RS	No	NYSE	4:00	Morgan Stanley	7
RSG	Republic Services, Inc.	RSG	No	NYSE	4:00	Wolverine Trading, LLC	7
RSP	Invesco S&P 500 Equal Weight ETF	RSP	No	NYSE Arca	4:00	Wolverine Trading, LLC	7
RST	Rosetta Stone Inc.	RST	No	NYSE	4:00	Morgan Stanley	7
RTRX	Retrophin, Inc.	RTRX	No	NASDAQ	4:00	Morgan Stanley	7
RUBI	the Rubicon Project, Inc.	RUBI	No	NYSE	4:00	Morgan Stanley	7
RUSL	Direxion Daily Russia Bull 3x Shares	RUSL	No	NYSE Arca	4:00	Citadel Securities, LLC	7
RUSS	Direxion Daily Russia Bear 3x Shares	RUSS	No	NYSE Arca	4:00	Citadel Securities, LLC	7
RUTH	Ruth's Hospitality Group, Inc.	RUTH	No	NASDAQ	4:00	Wolverine Trading, LLC	7
RY	Royal Bank Of Canada	RY	No	NYSE	4:00	IMC Financial Markets	7
RYAAY	Ryanair Holdings plc	RYAAY	No	NASDAQ	4:00	Wolverine Trading, LLC	7
RYAM	Rayonier Advanced Materials Inc.	RYAM	No	NYSE	4:00	Morgan Stanley	7
SAFM	Sanderson Farms, Inc.	SAFM	No	NASDAQ	4:00	Wolverine Trading, LLC	8
SAIC	Science Applications International Corporation	SAIC	No	NYSE	4:00	Wolverine Trading, LLC	8
SAIL	SailPoint Technologies Holdings, Inc.	SAIL	No	NYSE	4:00	Wolverine Trading, LLC	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
SALT	Scorpio Bulkers Inc.	SALT	No	NYSE	4:00	Citadel Securities, LLC	8
SAM	The Boston Beer Company, Inc.	SAM	No	NYSE	4:00	Citadel Securities, LLC	8
SAVE	Spirit Airlines, Inc.	SAVE	No	NYSE	4:00	IMC Financial Markets	8
SBH	Sally Beauty Holdings, Inc.	SBH	No	NYSE	4:00	Morgan Stanley	8
SBLK	Star Bulk Carriers Corp.	SBLK	No	NASDAQ	4:00	Wolverine Trading, LLC	8
SBNY	Signature Bank	SBNY	No	NASDAQ	4:00	IMC Financial Markets	8
SBRA	Sabra Health Care REIT, Inc.	SBRA	No	NASDAQ	4:00	Wolverine Trading, LLC	8
SC	Santander Consumer USA Holdings Inc.	SC	No	NYSE	4:00	Citadel Securities, LLC	8
SCHN	Schnitzer Steel Industries, Inc.	SCHN	No	NASDAQ	4:00	Morgan Stanley	8
SEM	Select Medical Holdings Corporation	SEM	No	NYSE	4:00	Citadel Securities, LLC	8
SEMG	SemGroup Corporation	SEMG	No	NYSE	4:00	Citadel Securities, LLC	8
SENS	Senseonics Holdings, Inc.	SENS	No	AMEX	4:00	Citadel Securities, LLC	8
SERV	ServiceMaster Global Holdings, Inc.	SERV	No	NYSE	4:00	Wolverine Trading, LLC	8
SESN	Sesen Bio, Inc.	SESN	No	NASDAQ	4:00	Citadel Securities, LLC	8
SF	Stifel Financial Corp.	SF	No	NYSE	4:00	Susquehanna Securities	8
SFL	Ship Finance International Limited	SFL	No	NYSE	4:00	Morgan Stanley	8
SFUN	Fang Holdings Limited	SFUN	No	NYSE	4:00	Morgan Stanley	8
SGEN	Seattle Genetics, Inc.	SGEN	No	NASDAQ	4:00	Citadel Securities, LLC	8
SGH	SMART Global Holdings, Inc.	SGH	No	NASDAQ	4:00	Susquehanna Securities	8
SHLX	Shell Midstream Partners, L.P.	SHLX	No	NYSE	4:00	Morgan Stanley	8
SID	Companhia Siderurgical Nacional	SID	No	NYSE	4:00	Susquehanna Securities	8
SIVB	SVB Financial Group	SIVB	No	NASDAQ	4:00	Citadel Securities, LLC	8
SJT	San Juan Basin Royalty Trust	SJT	No	NYSE	4:00	Susquehanna Securities	8
SKF	ProShares UltraShort Financials	SKF	Yes	NYSE Arca	4:00	Citadel Securities, LLC	8
SLAB	Silicon Laboratories Inc.	SLAB	No	NASDAQ	4:00	Citadel Securities, LLC	8
SLG	SL Green Realty Corp.	SLG	No	NYSE	4:00	Wolverine Trading, LLC	8
SMLP	Summit Midstream Partners, LP	SMLP	No	NYSE	4:00	Wolverine Trading, LLC	8
SMSI	Smith Micro Software, Inc.	SMSI	No	NASDAQ	4:00	Citadel Securities, LLC	8
SMTC	Semtech Corporation	SMTC	No	NASDAQ	4:00	Morgan Stanley	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
SNA	Snap-On Incorporated	SNA	No	NYSE	4:00	Wolverine Trading, LLC	8
SNH	Senior Housing Properties Trust	SNH	No	NASDAQ	4:00	Citadel Securities, LLC	8
SNP	China Petroleum & Chemical Corporation	SNP	No	NYSE	4:00	Citadel Securities, LLC	8
SNSS	Sunesis Pharmaceuticals, Inc.	SNSS	No	NASDAQ	4:00	Morgan Stanley	8
SNV	Synovus Financial Corp.	SNV	No	NYSE	4:00	Citadel Securities, LLC	8
SORL	SORL Auto Parts, Inc.	SORL	No	NASDAQ	4:00	Citadel Securities, LLC	8
SPB	Spectrum Brands Holdings, Inc.	SPB	No	NYSE	4:00	Wolverine Trading, LLC	8
SPGI	S&P Global Inc.	SPGI	No	NYSE	4:00	Wolverine Trading, LLC	8
SPH	Suburban Propane Partners, L.P.	SPH	No	NYSE	4:00	Citadel Securities, LLC	8
SPHS	Sophiris Bio, Inc.	SPHS	No	NASDAQ	4:00	Susquehanna Securities	8
SPN	Superior Energy Services, Inc.	SPN	No	NYSE	4:00	Morgan Stanley	8
SQM	Sociedad Quimica y Minera de Chile S.A.	SQM	No	NYSE	4:00	Morgan Stanley	8
SRCL	Stericycle, Inc.	SRCL	No	NASDAQ	4:00	IMC Financial Markets	8
SSTK	Shutterstock, Inc.	SSTK	No	NYSE	4:00	Morgan Stanley	8
ST	Sensata Technologies Holding plc	ST	No	NYSE	4:00	Citadel Securities, LLC	8
STAY	Extended Stay America, Inc.	STAY	No	NASDAQ	4:00	Citadel Securities, LLC	8
STKL	SunOpta Inc.	STKL	No	NASDAQ	4:00	Citadel Securities, LLC	8
STOR	STORE Capital Corporation	STOR	No	NYSE	4:00	Citadel Securities, LLC	8
STWD	Starwood Property Trust, Inc.	STWD	No	NYSE	4:00	Morgan Stanley	8
SUPN	Supernus Pharmaceuticals, Inc.	SUPN	No	NASDAQ	4:00	Citadel Securities, LLC	8
SWCH	Switch, Inc.	SWCH	No	NYSE	4:00	Citadel Securities, LLC	8
SWIR	Sierra Wireless, Inc.	SWIR	No	NASDAQ	4:00	IMC Financial Markets	8
TA	TravelCenters of America LLC	TA	No	NASDAQ	4:00	Morgan Stanley	8
TACO	Del Taco Restaurants, Inc.	TACO	No	NASDAQ	4:00	Susquehanna Securities	8
TAN	Invesco Solar ETF	TAN	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
TCBI	Texas Capital Bancshares, Inc.	TCBI	No	NASDAQ	4:00	Citadel Securities, LLC	8
TCP	TC Pipelines, LP	TCP	No	NYSE	4:00	Morgan Stanley	8
TCS	The Container Store Group, Inc.	TCS	No	NYSE	4:00	Morgan Stanley	8
TDG	TransDigm Group Incorporated	TDG	No	NYSE	4:00	Wolverine Trading, LLC	8
TDS	Telephone & Data Systems, Inc.	TDS	No	NYSE	4:00	Citadel Securities, LLC	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
TECD	Tech Data Corporation	TECD	No	NASDAQ	4:00	Citadel Securities, LLC	8
TECL	Direxion Daily Technology Bull 3x Shares	TECL	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
TEN	Tenneco Inc.	TEN	No	NYSE	4:00	Citadel Securities, LLC	8
TGE	Tallgrass Energy, LP	TGE	No	NYSE	4:00	Susquehanna Securities	8
TGH	Textainer Group Holdings Limited	TGH	No	NYSE	4:00	Citadel Securities, LLC	8
TGNA	TEGNA Inc.	TGNA	No	NYSE	4:00	Wolverine Trading, LLC	8
TKC	Turkcell Lletisim Hizmetleri A.S.	TKC	No	NYSE	4:00	Susquehanna Securities	8
TKR	The Timken Company	TKR	No	NYSE	4:00	Morgan Stanley	8
TM	Toyota Motor Corporation	TM	Yes	NYSE	4:00	Wolverine Trading, LLC	8
TMV	Direxion Daily 20+ Year Treasury Bear 3X Shares	TMV	No	NYSE Arca	4:00	Susquehanna Securities	8
TNET	TriNet Group, Inc.	TNET	No	NYSE	4:00	Morgan Stanley	8
TOO	Teekay Offshore Partners L.P.	TOO	No	NYSE	4:00	Citadel Securities, LLC	8
TPC	Tutor Perini Corporation	TPC	No	NYSE	4:00	Wolverine Trading, LLC	8
TPCO	Tribune Publishing Company	TPCO	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TPH	TRI Pointe Group, Inc.	TPH	No	NYSE	4:00	Morgan Stanley	8
TRMB	Trimble Inc.	TRMB	No	NASDAQ	4:00	Susquehanna Securities	8
TRP	TransCanada Corporation	TRP	No	NYSE	4:00	Citadel Securities, LLC	8
TS	Tenaris S.A.	TS	No	NYSE	4:00	Susquehanna Securities	8
TSEM	Tower Semiconductor Ltd.	TSEM	No	NASDAQ	4:00	Morgan Stanley	8
TTNP	Titan Pharmaceuticals, Inc.	TTNP	No	NASDAQ	4:00	Citadel Securities, LLC	8
TTS	Tile Shop Holdings, Inc.	TTS	No	NASDAQ	4:00	Morgan Stanley	8
TUP	Tupperware Brands Corporation	TUP	No	NYSE	4:00	Susquehanna Securities	8
TV	Grupo Televisa, S.A.B.	TV	No	NYSE	4:00	Morgan Stanley	8
TVPT	Travelport Worldwide Limited	TVPT	No	NYSE	4:00	Susquehanna Securities	8
TWNK	Hostess Brands, Inc.	TWNK	No	NASDAQ	4:00	Susquehanna Securities	8
TWO	Two Harbors Investment Corp.	TWO	No	NYSE	4:00	Susquehanna Securities	8
TWOU	2u, Inc.	TWOU	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TX	Ternium S.A.	TX	No	NYSE	4:00	Morgan Stanley	8
TXRH	Texas Roadhouse, Inc.	TXRH	No	NASDAQ	4:00	Citadel Securities, LLC	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
TYL	Tyler Technologies, Inc.	TYL	No	NYSE	4:00	Morgan Stanley	8
UCTT	Ultra Clean Holdings, Inc.	UCTT	No	NASDAQ	4:00	Susquehanna Securities	9
UFS	Domtar Corporation	UFS	No	NYSE	4:00	Wolverine Trading, LLC	9
UGA	United States Gasoline Fund, LP	UGA	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
UHS	Universal Health Services, Inc.	UHS	No	NYSE	4:00	Wolverine Trading, LLC	9
UNVR	Univar Inc.	UNVR	No	NYSE	4:00	Wolverine Trading, LLC	9
URA	Global X Uranium ETF	URA	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
USAC	USA Compression Partners, LP	USAC	No	NYSE	4:00	Citadel Securities, LLC	9
USFD	US Foods Holding Corp.	USFD	No	NYSE	4:00	Wolverine Trading, LLC	9
UTHR	United Therapeutics Corporation	UTHR	No	NASDAQ	4:00	Morgan Stanley	9
UUUU	Energy Fuels Inc.	UUUU	No	AMEX	4:00	Citadel Securities, LLC	9
UVE	Universal Insurance Holdings, Inc.	UVE	No	NYSE	4:00	Citadel Securities, LLC	9
UVV	Universal Corporation	UVV	No	NYSE	4:00	Citadel Securities, LLC	9
UWM	ProShares Ultra Russell2000	UWM	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
UYG	ProShares Ultra Financials	UYG	Yes	NYSE Arca	4:00	Susquehanna Securities	9
VAR	Varian Medical Systems, Inc.	VAR	No	NYSE	4:00	Citadel Securities, LLC	9
VCEL	Vericel Corporation	VCEL	No	NASDAQ	4:00	Citadel Securities, LLC	9
VEA	Vanguard FTSE Developed Markets Index Fund ETF Shares	VEA	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VECO	Veeco Instruments Inc.	VECO	No	NASDAQ	4:00	Morgan Stanley	9
VER	VEREIT, Inc.	VER	No	NYSE	4:00	Morgan Stanley	9
VG	Vonage Holdings Corp.	VG	No	NYSE	4:00	Morgan Stanley	9
VIG	Vanguard Dividend Appreciation Index Fund ETF Shares	VIG	No	NYSE Arca	4:00	Citadel Securities, LLC	9
VIXM	ProShares VIX Mid-Term Futures ETF	VIXM	No	NYSE Arca	4:00	Citadel Securities, LLC	9
VJET	voxeljet AG	VJET	No	NYSE	4:00	Citadel Securities, LLC	9
VMI	Valmont Industries, Inc.	VMI	No	NYSE	4:00	Morgan Stanley	9
VNDA	Vanda Pharmaceuticals Inc.	VNDA	No	NASDAQ	4:00	Susquehanna Securities	9
VNO	Vornado Realty Trust	VNO	No	NYSE	4:00	IMC Financial Markets	9
VNTR	Venator Materials PLC	VNTR	No	NYSE	4:00	Citadel Securities, LLC	9



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
VOYA	Voya Financial, Inc.	VOYA	No	NYSE	4:00	Morgan Stanley	9
VRA	Vera Bradley, Inc.	VRA	No	NASDAQ	4:00	Morgan Stanley	9
VRAY	ViewRay, Inc.	VRAY	No	NASDAQ	4:00	Citadel Securities, LLC	9
VRNS	Varonis Systems, Inc.	VRNS	No	NASDAQ	4:00	Wolverine Trading, LLC	9
VRNT	Verint Systems Inc.	VRNT	No	NASDAQ	4:00	Morgan Stanley	9
VRSK	Verisk Analytics, Inc.	VRSK	No	NASDAQ	4:00	Wolverine Trading, LLC	9
VSI	Vitamin Shoppe, Inc.	VSI	No	NYSE	4:00	Morgan Stanley	9
VSLR	Vivint Solar, Inc.	VSLR	No	NYSE	4:00	Citadel Securities, LLC	9
VT	Vanguard Total World Stock Index Fund ETF Shares	VT	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VTI	Vanguard Total Stock Market Index Fund ETF Shares	VTI	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VVV	Valvoline Inc.	VVV	No	NYSE	4:00	Susquehanna Securities	9
WAGE	WageWorks, Inc.	WAGE	No	NYSE	4:00	Citadel Securities, LLC	10
WAL	Western Alliance Bancorporation	WAL	No	NYSE	4:00	Citadel Securities, LLC	10
WAT	Waters Corporation	WAT	No	NYSE	4:00	Susquehanna Securities	10
WCN	Waste Connections, Inc.	WCN	No	NYSE	4:00	Wolverine Trading, LLC	10
WDR	Waddell & Reed Financial, Inc.	WDR	No	NYSE	4:00	Morgan Stanley	10
WEAT	Teucrium Wheat	WEAT	No	NYSE Arca	4:00	Susquehanna Securities	10
WEC	WEC Energy Group, Inc.	WEC	No	NYSE	4:00	Wolverine Trading, LLC	10
WERN	Werner Enterprises, Inc.	WERN	No	NASDAQ	4:00	Susquehanna Securities	10
WETF	WisdomTree Investments, Inc.	WETF	No	NASDAQ	4:00	Morgan Stanley	10
WH	Wyndham Hotels & Resorts, Inc.	WH	No	NYSE	4:00	Citadel Securities, LLC	10
WIFI	Boingo Wireless, Inc.	WIFI	No	NASDAQ	4:00	Morgan Stanley	10
WK	Workiva Inc.	WK	No	NYSE	4:00	Susquehanna Securities	10
WLH	William Lyon Homes	WLH	No	NYSE	4:00	Citadel Securities, LLC	10
WMGI	Wright Medical Group N.V.	WMGI	No	NASDAQ	4:00	Citadel Securities, LLC	10
WOR	Worthington Industries, Inc.	WOR	No	NYSE	4:00	Morgan Stanley	10
WPC	W.P. Carey Inc.	WPC	No	NYSE	4:00	Wolverine Trading, LLC	10
WPRT	Westport Fuel Systems Inc.	WPRT	No	NASDAQ	4:00	Morgan Stanley	10
WTTR	Select Energy Services, Inc.	WTTR	No	NYSE	4:00	Susquehanna Securities	10
WYND	Wyndham Destinations, Inc.	WYND	No	NYSE	4:00	Wolverine Trading, LLC	10



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
XEL	Xcel Energy Inc.	XEL	No	NASDAQ	4:00	Wolverine Trading, LLC	10
XENT	Intersect ENT, Inc.	XENT	No	NASDAQ	4:00	Citadel Securities, LLC	10
XES	SPDR S&P Oil & Gas Equipment & Services ETF	XES	No	NYSE Arca	4:00	Wolverine Trading, LLC	10
XIN	Xinyuan Real Estate Co., Ltd.	XIN	No	NYSE	4:00	Citadel Securities, LLC	10
XLRN	Accelaron Pharma Inc.	XLRN	No	NASDAQ	4:00	Citadel Securities, LLC	10
XNET	Xunlei Limited	XNET	No	NASDAQ	4:00	Morgan Stanley	10
XONE	The ExOne Company	XONE	No	NASDAQ	4:00	Morgan Stanley	10
XYL	Xylem Inc.	XYL	No	NYSE	4:00	Morgan Stanley	10
YANG	Direxion Daily FTSE China Bear 3X Shares	YANG	No	NYSE Arca	4:00	Citadel Securities, LLC	10
ZBH	Zimmer Biomet Holdings, Inc.	ZBH	No	NYSE	4:00	Wolverine Trading, LLC	11
ZBRA	Zebra Technologies Corporation	ZBRA	No	NASDAQ	4:00	Wolverine Trading, LLC	11
ZTO	ZTO Express (Cayman) Inc.	ZTO	No	NYSE	4:00	Morgan Stanley	11
ZUMZ	Zumiez Inc.	ZUMZ	No	NASDAQ	4:00	Morgan Stanley	11
ZYNE	Zynerba Pharmaceuticals, Inc.	ZYNE	No	NASDAQ	4:00	Susquehanna Securities	11

Please contact MIAX Options Listings with any questions.

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