



The option classes listed below will begin trading on the MIAX Emerald Exchange at the start of trading on **Monday, April 29, 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
AAN	Aaron's, Inc.	AAN	No	NYSE	4:00	Morgan Stanley	1
ACGL	Arch Capital Group Ltd.	ACGL	No	NASDAQ	4:00	Morgan Stanley	1
ACH	Aluminum Corporation of China Limited	ACH	No	NYSE	4:00	Susquehanna Securities	1
ACIW	ACI Worldwide, Inc.	ACIW	No	NASDAQ	4:00	Citadel Securities, LLC	1
ADRO	Aduro BioTech, Inc.	ADRO	No	NASDAQ	4:00	Citadel Securities, LLC	1
ADVM	Adverum Biotechnologies, Inc.	ADVM	No	NASDAQ	4:00	Citadel Securities, LLC	1
AEE	Ameren Corporation	AEE	No	NYSE	4:00	Wolverine Trading, LLC	1
AEG	Aegon N.V.	AEG	No	NYSE	4:00	Citadel Securities, LLC	1
AFH	Atlas Financial Holdings, Inc.	AFH	No	NASDAQ	4:00	Susquehanna Securities	1
AFTY	CSOP FTSE China A50 ETF	AFTY	No	NYSE Arca	4:00	Citadel Securities, LLC	1
AGRO	Adecoagro S.A.	AGRO	No	NYSE	4:00	Susquehanna Securities	1
AI	Arlington Asset Investment Corp.	AI	No	NYSE	4:00	Morgan Stanley	1
AINV	Apollo Investment Corporation	AINV	No	NASDAQ	4:00	Citadel Securities, LLC	1
AIR	AAR Corp.	AIR	No	NYSE	4:00	Susquehanna Securities	1
AIV	Apartment Investment and Management Company	AIV	No	NYSE	4:00	Citadel Securities, LLC	1
AJG	Arthur J. Gallagher & Co.	AJG	No	NYSE	4:00	Wolverine Trading, LLC	1
AKBA	Akebia Therapeutics, Inc.	AKBA	No	NASDAQ	4:00	Susquehanna Securities	1
AKG	Asanko Gold Inc.	AKG	No	AMEX	4:00	Citadel Securities, LLC	1
ALDR	Alder BioPharmaceuticals, Inc.	ALDR	No	NASDAQ	4:00	Citadel Securities, LLC	1
ALGT	Allegiant Travel Company	ALGT	No	NASDAQ	4:00	IMC Financial Markets	1

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ALIM	Alimera Sciences, Inc.	ALIM	No	NASDAQ	4:00	Citadel Securities, LLC	1
ALLE	Allegion plc	ALLE	No	NYSE	4:00	Morgan Stanley	1
ALLT	Allot Ltd.	ALLT	No	NASDAQ	4:00	Susquehanna Securities	1
ALSK	Alaska Communications Systems Group, Inc.	ALSK	No	NASDAQ	4:00	Citadel Securities, LLC	1
AMCN	AirMedia Group Inc.	AMCN	No	NASDAQ	4:00	Citadel Securities, LLC	1
AMH	American Homes 4 Rent	AMH	No	NYSE	4:00	Citadel Securities, LLC	1
AMPH	Amphastar Pharmaceuticals, Inc.	AMPH	No	NASDAQ	4:00	Susquehanna Securities	1
AMR	Alta Mesa Resources, Inc.	AMR	No	NASDAQ	4:00	Citadel Securities, LLC	1
ANDE	The Andersons, Inc.	ANDE	No	NASDAQ	4:00	Morgan Stanley	1
ANFI	Amira Nature Foods Ltd.	ANFI	No	NYSE	4:00	Morgan Stanley	1
ANGO	AngioDynamcis, Inc.	ANGO	No	NASDAQ	4:00	Citadel Securities, LLC	1
ANIK	Anika Therapeutics, Inc.	ANIK	No	NASDAQ	4:00	Morgan Stanley	1
ANIP	ANI Pharmaceuticals, Inc.	ANIP	No	NASDAQ	4:00	Morgan Stanley	1
APDN	Applied DNA Sciences, Inc.	APDN	No	NASDAQ	4:00	Susquehanna Securities	1
APEI	American Public Education, Inc.	APEI	No	NASDAQ	4:00	Citadel Securities, LLC	1
APPS	Digital Turbine, Inc.	APPS	No	NASDAQ	4:00	Citadel Securities, LLC	1
APT	Alpha Pro Tech, Ltd.	APT	No	AMEX	4:00	Susquehanna Securities	1
AQXP	Aquinox Pharmaceuticals, Inc.	AQXP	No	NASDAQ	4:00	Citadel Securities, LLC	1
ARCB	ArcBest Corporation	ARCB	No	NASDAQ	4:00	Susquehanna Securities	1
ARCO	Arcos Dorados Holdings Inc.	ARCO	No	NYSE	4:00	Morgan Stanley	1
ARE	Alexandria Real Estate Equities, Inc.	ARE	No	NYSE	4:00	Wolverine Trading, LLC	1
AREX	Approach Resources, Inc.	AREX	No	NASDAQ	4:00	Morgan Stanley	1
ARI	Apollo Commercial Real Estate Finance, Inc.	ARI	No	NYSE	4:00	Susquehanna Securities	1
ARR	ARMOUR Residential REIT, Inc.	ARR	No	NYSE	4:00	Morgan Stanley	1
ARTX	Arotech Corporation	ARTX	No	NASDAQ	4:00	Citadel Securities, LLC	1
ASA	ASA Gold and Precious Metals Limited	ASA	No	NYSE	4:00	Susquehanna Securities	1

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ASC	Ardmore Shipping Corporation	ASC	No	NYSE	4:00	Citadel Securities, LLC	1
ASHS	Xtrackers Harvest CSI 500 China-A Shares Small Cap ETF	ASHS	No	NYSE Arca	4:00	Wolverine Trading, LLC	1
ASIX	AdvanSix Inc.	ASIX	No	NYSE	4:00	Susquehanna Securities	1
ASMB	Assembly Biosciences, Inc.	ASMB	No	NASDAQ	4:00	Citadel Securities, LLC	1
ASND	Ascendis Pharma A/S	ASND	No	NASDAQ	4:00	Citadel Securities, LLC	1
ASRT	Assertio Therapeutics, Inc.	ASRT	No	NASDAQ	4:00	Morgan Stanley	1
AT	Atlantic Power Corporation	AT	No	NYSE	4:00	Susquehanna Securities	1
ATR	AptarGroup, Inc.	ATR	No	NYSE	4:00	Wolverine Trading, LLC	1
ATU	Actuant Corporation	ATU	No	NYSE	4:00	Morgan Stanley	1
AUDC	AudioCodes Ltd.	AUDC	No	NASDAQ	4:00	Wolverine Trading, LLC	1
AUO	AU Optronics Corp.	AUO	No	NYSE	4:00	Susquehanna Securities	1
AUTO	AutoWeb, Inc.	AUTO	No	NASDAQ	4:00	Susquehanna Securities	1
AVD	American Vanguard Corporation	AVD	No	NYSE	4:00	Morgan Stanley	1
AVDL	Avadel Pharmaceuticals plc	AVDL	No	NASDAQ	4:00	Citadel Securities, LLC	1
AVH	Avianca Holdings S.A.	AVH	No	NYSE	4:00	Susquehanna Securities	1
AVID	Avid Technology, Inc.	AVID	No	NASDAQ	4:00	Susquehanna Securities	1
AVNS	Avanos Medical, Inc.	AVNS	No	NYSE	4:00	Wolverine Trading, LLC	1
AVY	Avery Dennison Corporation	AVY	No	NYSE	4:00	Morgan Stanley	1
AXAS	Abraxas Petroleum Corporation	AXAS	No	NASDAQ	4:00	Citadel Securities, LLC	1
AY	Atlantica Yield plc	AY	No	NASDAQ	4:00	Wolverine Trading, LLC	1
AYR	Aircastle Limited	AYR	No	NYSE	4:00	Morgan Stanley	1
BABY	Natus Medical Incorporated	BABY	No	NASDAQ	4:00	Citadel Securities, LLC	2
BAP	Credicorp Ltd.	BAP	No	NYSE	4:00	Susquehanna Securities	2
BAS	Basic Energy Services, Inc.	BAS	No	NYSE	4:00	Citadel Securities, LLC	2
BBDC	Barings BDC, Inc.	BBDC	No	NYSE	4:00	Citadel Securities, LLC	2

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BBH	VanEck Vectors Biotech ETF	BBH	No	NASDAQ	4:00	Susquehanna Securities	2
BBSI	Barrett Business Services, Inc.	BBSI	No	NASDAQ	4:00	Citadel Securities, LLC	2
BBW	Build-A-Bear Workshop, Inc.	BBW	No	NYSE	4:00	Citadel Securities, LLC	2
BCLI	Brainstorm Cell Therapeutics Inc.	BCLI	No	NASDAQ	4:00	Citadel Securities, LLC	2
BCOR	Blucora, Inc.	BCOR	No	NASDAQ	4:00	Morgan Stanley	2
BCOV	Brightcove Inc.	BCOV	No	NASDAQ	4:00	Citadel Securities, LLC	2
BCPC	Balchem Corporation	BCPC	No	NASDAQ	4:00	Wolverine Trading, LLC	2
BDC	Belden Inc.	BDC	No	NYSE	4:00	Morgan Stanley	2
BEST	BEST Inc.	BEST	No	NYSE	4:00	Susquehanna Securities	2
BFB	Brown-Forman Corporation	BFB	No	NYSE	4:00	Susquehanna Securities	2
BGG	Briggs & Stratton Corporation	BGG	No	NYSE	4:00	Morgan Stanley	2
BHR	Braemar Hotels & Resorts, Inc.	BHR	No	NYSE	4:00	Susquehanna Securities	2
BHVN	Biohaven Pharmaceutical Holding Company Ltd.	BHVN	No	NYSE	4:00	Citadel Securities, LLC	2
BIP	Brookfield Infrastructure Partners L.P.	BIP	No	NYSE	4:00	Wolverine Trading, LLC	2
BIS	ProShares UltraShort Nasdaq Biotechnology	BIS	No	NASDAQ	4:00	Susquehanna Securities	2
BKEP	Blueknight Energy Partners, L.P.	BKEP	No	NASDAQ	4:00	Susquehanna Securities	2
BKF	iShares MSCI BRIC ETF	BKF	No	NYSE Arca	4:00	Susquehanna Securities	2
BKH	Black Hills Corporation	BKH	No	NYSE	4:00	Citadel Securities, LLC	2
BMCH	BMC Stock Holdings, Inc.	BMCH	No	NASDAQ	4:00	Citadel Securities, LLC	2
BMS	Bemis Company, Inc.	BMS	No	NYSE	4:00	Susquehanna Securities	2
BNED	Barnes & Noble Education, Inc.	BNED	No	NYSE	4:00	Morgan Stanley	2
BNFT	Benefitfocus, Inc.	BNFT	No	NASDAQ	4:00	Wolverine Trading, LLC	2
BOKF	BOK Financial Corporation	BOKF	No	NASDAQ	4:00	Morgan Stanley	2
BPFH	Boston Private Financial Holdings, Inc.	BPFH	No	NASDAQ	4:00	Susquehanna Securities	2
BRKR	Bruker Corporation	BRKR	No	NASDAQ	4:00	Wolverine Trading, LLC	2
BSBR	Banco Santander (Brasil) S.A.	BSBR	No	NYSE	4:00	Susquehanna Securities	2

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BSQR	BSQUARE Corporation	BSQR	No	NASDAQ	4:00	Citadel Securities, LLC	2
BWXT	BWX Technologies, Inc.	BWXT	No	NYSE	4:00	Susquehanna Securities	2
CACI	CACI International Inc	CACI	No	NYSE	4:00	Wolverine Trading, LLC	2
CAMT	Camtek Ltd.	CAMT	No	NASDAQ	4:00	Citadel Securities, LLC	2
CAPL	CrossAmerica Partners LP	CAPL	No	NYSE	4:00	Citadel Securities, LLC	2
CBB	Cincinnati Bell Inc.	CBB	No	NYSE	4:00	Citadel Securities, LLC	2
CBT	Cabot Corporation	CBT	No	NYSE	4:00	Citadel Securities, LLC	2
CCEP	Coca-Cola European Partners plc	CCEP	No	NYSE	4:00	Wolverine Trading, LLC	2
CCIH	ChinaCache International Holdings Ltd.	CCIH	No	NASDAQ	4:00	Citadel Securities, LLC	2
CCMP	Cabot Microelectronics Corporation	CCMP	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CCOI	Cogent Communications Holdings, Inc.	CCOI	No	NASDAQ	4:00	Susquehanna Securities	2
CCRN	Cross Country Healthcare, Inc.	CCRN	No	NASDAQ	4:00	Citadel Securities, LLC	2
CDZI	Cadiz Inc.	CDZI	No	NASDAQ	4:00	Citadel Securities, LLC	2
CECO	Career Education Corporation	CECO	No	NASDAQ	4:00	Morgan Stanley	2
CEVA	CEVA, Inc.	CEVA	No	NASDAQ	4:00	Morgan Stanley	2
CFR	Cullen/Frost Bankers, Inc.	CFR	No	NYSE	4:00	IMC Financial Markets	2
CGA	China Green Agriculture, Inc.	CGA	No	NYSE	4:00	Citadel Securities, LLC	2
CGEN	Compugen Ltd.	CGEN	No	NASDAQ	4:00	Susquehanna Securities	2
CHE	Chemed Corporation	CHE	No	NYSE	4:00	Susquehanna Securities	2
CHH	Choice Hotels International, Inc.	CHH	No	NYSE	4:00	Susquehanna Securities	2
CHIX	Global X MSCI China Financials ETF	CHIX	No	NYSE Arca	4:00	Susquehanna Securities	2
CHKR	Chesapeake Granite Wash Trust	CHKR	No	NYSE	4:00	Susquehanna Securities	2
CHU	China Unicom (Hong Kong) Limited	CHU	No	NYSE	4:00	Susquehanna Securities	2
CHUY	Chuy's Holdings, Inc.	CHUY	No	NASDAQ	4:00	Citadel Securities, LLC	2
CIA	Citizens, Inc.	CIA	No	NYSE	4:00	Susquehanna Securities	2
CINF	Cincinnati Financial Corporation	CINF	No	NASDAQ	4:00	Susquehanna Securities	2

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CKH	Seacor Holdings Inc.	CKH	No	NYSE	4:00	Citadel Securities, LLC	2
CLAR	Clarus Corporation	CLAR	No	NASDAQ	4:00	Citadel Securities, LLC	2
CLDT	Chatham Lodging Trust	CLDT	No	NYSE	4:00	Susquehanna Securities	2
CLDX	Celldex Therapeutics, Inc.	CLDX	No	NASDAQ	4:00	Susquehanna Securities	2
CLFD	Clearfield, Inc.	CLFD	No	NASDAQ	4:00	Citadel Securities, LLC	2
CLH	Clean Harbors, Inc.	CLH	No	NYSE	4:00	Morgan Stanley	2
CLIR	ClearSign Combustion Corporation	CLIR	No	NASDAQ	4:00	Citadel Securities, LLC	2
CLLS	Collectis S.A.	CLLS	No	NASDAQ	4:00	Susquehanna Securities	2
CLS	Celestica Inc.	CLS	No	NYSE	4:00	Susquehanna Securities	2
CLUB	Town Sports International Holdings, Inc.	CLUB	No	NASDAQ	4:00	Citadel Securities, LLC	2
CLW	Clearwater Paper Corporation	CLW	No	NYSE	4:00	Wolverine Trading, LLC	2
CMD	Cantel Medical Corp.	CMD	No	NYSE	4:00	Citadel Securities, LLC	2
CMRX	Chimerix, Inc.	CMRX	No	NASDAQ	4:00	Morgan Stanley	2
CMS	CMS Energy Corporation	CMS	No	NYSE	4:00	Wolverine Trading, LLC	2
CNCE	Concert Pharmaceuticals, Inc.	CNCE	No	NASDAQ	4:00	Citadel Securities, LLC	2
CNK	Cinemark Holdings, Inc.	CNK	No	NYSE	4:00	Wolverine Trading, LLC	2
CNO	CNO Financial Group, Inc.	CNO	No	NYSE	4:00	Morgan Stanley	2
CNXM	CNX Midstream Partners LP	CNXM	No	NYSE	4:00	Susquehanna Securities	2
CODI	Compass Diversified Holdings LLC	CODI	No	NYSE	4:00	Wolverine Trading, LLC	2
COHU	Cohu, Inc.	COHU	No	NASDAQ	4:00	Susquehanna Securities	2
COLL	Collegium Pharmaceutical, Inc.	COLL	No	NASDAQ	4:00	Citadel Securities, LLC	2
COLM	Columbia Sportswear Company	COLM	No	NASDAQ	4:00	Wolverine Trading, LLC	2
COR	CoreSite Realty Corporation	COR	No	NYSE	4:00	Wolverine Trading, LLC	2
CORE	Core-Mark Holding Company, Inc.	CORE	No	NASDAQ	4:00	Susquehanna Securities	2
CORR	CorEnergy Infrastructure Trust, Inc.	CORR	No	NYSE	4:00	Citadel Securities, LLC	2
COWN	Cowen Inc.	COWN	No	NASDAQ	4:00	Susquehanna Securities	2

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CPSS	Consumer Portfolio Services, Inc.	CPSS	No	NASDAQ	4:00	Citadel Securities, LLC	2
CR	Crane Co.	CR	No	NYSE	4:00	Susquehanna Securities	2
CRCM	Care.com, Inc.	CRCM	No	NYSE	4:00	Citadel Securities, LLC	2
CRESY	Cresud Sociedad Anonima Comercial, Inmobiliaria, Financiera y Agropecuaria	CRESY	No	NASDAQ	4:00	Susquehanna Securities	2
CRH	CRH plc	CRH	No	NYSE	4:00	Citadel Securities, LLC	2
CRL	Charles River Laboratories International, Inc.	CRL	No	NYSE	4:00	Morgan Stanley	2
CRS	Carpenter Technology Corporation	CRS	No	NYSE	4:00	Wolverine Trading, LLC	2
CRY	CryoLife, Inc.	CRY	No	NYSE	4:00	Citadel Securities, LLC	2
CSGS	CSG Systems International, Inc.	CSGS	No	NASDAQ	4:00	Susquehanna Securities	2
CSII	Cardiovascular Systems, Inc.	CSII	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CSLT	Castlight Health, Inc.	CSLT	No	NYSE	4:00	Morgan Stanley	2
CSU	Capital Senior Living Corporation	CSU	No	NYSE	4:00	Susquehanna Securities	2
CSV	Carriage Services, Inc.	CSV	No	NYSE	4:00	Citadel Securities, LLC	2
CTG	Computer Task Group, Incorporated	CTG	No	NASDAQ	4:00	Susquehanna Securities	2
CTIC	CTI BioPharma Corp.	CTIC	Yes	NASDAQ	4:00	Morgan Stanley	2
CTLT	Catalent, Inc.	CTLT	No	NYSE	4:00	Susquehanna Securities	2
CUBE	CubeSmart	CUBE	No	NYSE	4:00	Citadel Securities, LLC	2
CUR	Neuralstem, Inc.	CUR	No	NASDAQ	4:00	Morgan Stanley	2
CUTR	Cutera, Inc.	CUTR	No	NASDAQ	4:00	Citadel Securities, LLC	2
CVEO	Civeo Corporation	CVEO	No	NYSE	4:00	Morgan Stanley	2
CVLT	Commvault Systems, Inc.	CVLT	No	NASDAQ	4:00	Morgan Stanley	2
CWB	SPDR Bloomberg Barclays Convertible Securities ETF	CWB	No	NYSE Arca	4:00	Susquehanna Securities	2
CWENA	Clearway Energy, Inc.	CWENA	No	NYSE	4:00	Susquehanna Securities	2
CWST	Casella Waste Systems, Inc.	CWST	No	NASDAQ	4:00	Susquehanna Securities	2
CXDC	China XD Plastics Company Limited	CXDC	No	NASDAQ	4:00	Citadel Securities, LLC	2

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
CYB	WisdomTree Chinese Yuan Strategy Fund	CYB	No	NYSE Arca	4:00	Wolverine Trading, LLC	2
CYD	China Yuchai International Limited	CYD	No	NYSE	4:00	Susquehanna Securities	2
CYTR	CytRx Corporation	CYTR	No	NASDAQ	4:00	Morgan Stanley	2
CZZ	Cosan Limited	CZZ	No	NYSE	4:00	Citadel Securities, LLC	2
DAKT	Daktronics, Inc.	DAKT	No	NASDAQ	4:00	Citadel Securities, LLC	3
DBB	Invesco DB Base Metals Fund	DBB	No	NYSE Arca	4:15	Susquehanna Securities	3
DBVT	DBV Technologies S.A.	DBVT	No	NASDAQ	4:00	Citadel Securities, LLC	3
DCI	Donaldson Company, Inc.	DCI	No	NYSE	4:00	Wolverine Trading, LLC	3
DEM	WisdomTree Emerging Markets High Dividend Fund	DEM	No	NYSE Arca	4:00	Citadel Securities, LLC	3
DFE	WisdomTree Europe SmallCap Dividend Fund	DFE	No	NYSE Arca	4:00	Morgan Stanley	3
DFRG	Del Frisco's Restaurant Group, Inc.	DFRG	No	NASDAQ	4:00	Morgan Stanley	3
DHX	DHI Group, Inc.	DHX	No	NYSE	4:00	Citadel Securities, LLC	3
DIG	ProShares Ultra Oil & Gas	DIG	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
DIOD	Diodes Incorporated	DIOD	No	NASDAQ	4:00	Citadel Securities, LLC	3
DKL	Delek Logistics Partners, LP	DKL	No	NYSE	4:00	Citadel Securities, LLC	3
DLB	Dolby Laboratories, Inc.	DLB	No	NYSE	4:00	Wolverine Trading, LLC	3
DLNG	Dynagas LNG Partners LP	DLNG	No	NYSE	4:00	Susquehanna Securities	3
DLX	Deluxe Corporation	DLX	No	NYSE	4:00	Susquehanna Securities	3
DMLP	Dorchester Minerals, L.P.	DMLP	No	NASDAQ	4:00	Citadel Securities, LLC	3
DNN	Denison Mines Corp.	DNN	No	AMEX	4:00	Susquehanna Securities	3
DNOW	NOW, Inc.	DNOW	No	NYSE	4:00	Morgan Stanley	3
DOG	ProShares Short Dow30	DOG	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
DRD	DRDGOLD Limited	DRD	No	NYSE	4:00	Citadel Securities, LLC	3
DRQ	Dril-Quip, Inc.	DRQ	No	NYSE	4:00	Citadel Securities, LLC	3
DRRX	DURECT Corporation	DRRX	No	NASDAQ	4:00	Citadel Securities, LLC	3
DUG	ProShares UltraShort Oil & Gas	DUG	No	NYSE Arca	4:00	Susquehanna Securities	3

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DXPE	DXP Enterprises, Inc.	DXPE	No	NASDAQ	4:00	Citadel Securities, LLC	3
E	ENI S.p.A.	E	No	NYSE	4:00	Citadel Securities, LLC	3
EBS	Emergent BioSolutions, Inc.	EBS	No	NYSE	4:00	Citadel Securities, LLC	3
ECH	iShares MSCI Chile Capped ETF	ECH	No	BATS	4:00	Citadel Securities, LLC	3
ECOM	ChannelAdvisor Corporation	ECOM	No	NYSE	4:00	Morgan Stanley	3
EDAP	EDAP TMS S.A.	EDAP	No	NASDAQ	4:00	Susquehanna Securities	3
EEV	ProShares UltraShort MSCI Emerging Mkts	EEV	No	NYSE Arca	4:00	Citadel Securities, LLC	3
EFAV	iShares Edge MSCI Min Vol EAFE ETF	EFAV	No	BATS	4:00	Susquehanna Securities	3
EGOV	NIC Inc.	EGOV	No	NASDAQ	4:00	Citadel Securities, LLC	3
EGRX	Eagle Pharmaceuticals, Inc.	EGRX	No	NASDAQ	4:00	Morgan Stanley	3
EHTH	eHealth, Inc.	EHTH	No	NASDAQ	4:00	Susquehanna Securities	3
ELGX	Endologix, Inc.	ELGX	No	NASDAQ	4:00	Morgan Stanley	3
ELS	Equity Lifestyle Properties, Inc.	ELS	No	NYSE	4:00	Susquehanna Securities	3
EMKR	EMCORE Corporation	EMKR	No	NASDAQ	4:00	Citadel Securities, LLC	3
ENBL	Enable Midstream Partners, LP	ENBL	No	NYSE	4:00	Citadel Securities, LLC	3
ENLC	EnLink Midstream, LLC	ENLC	No	NYSE	4:00	Susquehanna Securities	3
ENS	Energys	ENS	No	NYSE	4:00	Citadel Securities, LLC	3
ENV	Investnet, Inc.	ENV	No	NYSE	4:00	Citadel Securities, LLC	3
ENVA	Enova International, Inc.	ENVA	No	NYSE	4:00	Susquehanna Securities	3
ENZ	Enzo Biochem, Inc.	ENZ	No	NYSE	4:00	Citadel Securities, LLC	3
EPAM	EPAM Systems, Inc.	EPAM	No	NYSE	4:00	Wolverine Trading, LLC	3
EPV	ProShares UltraShort FTSE Europe	EPV	No	NYSE Arca	4:00	Susquehanna Securities	3
EPZM	Epizyme, Inc.	EPZM	No	NASDAQ	4:00	Morgan Stanley	3
EQC	Equity Commonwealth	EQC	No	NYSE	4:00	Morgan Stanley	3
EQNR	Equinor ASA	EQNR	No	NYSE	4:00	Morgan Stanley	3
ESRT	Empire State Realty Trust, Inc.	ESRT	No	NYSE	4:00	Citadel Securities, LLC	3

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EV	Eaton Vance Corp.	EV	No	NYSE	4:00	Wolverine Trading, LLC	3
EVC	Entravision Communications Corporation	EVC	No	NYSE	4:00	Citadel Securities, LLC	3
EVR	Evercore Inc.	EVR	No	NYSE	4:00	Citadel Securities, LLC	3
EVRG	Evergy, Inc.	EVRG	No	NYSE	4:00	Citadel Securities, LLC	3
EWM	iShares MSCI Malaysia ETF	EWM	No	NYSE Arca	4:00	Citadel Securities, LLC	3
EWP	iShares MSCI Spain Capped ETF	EWP	No	NYSE Arca	4:00	Morgan Stanley	3
EWQ	iShares MSCI France ETF	EWQ	No	NYSE Arca	4:00	Wolverine Trading, LLC	3
EWS	iShares MSCI Singapore Capped ETF	EWS	No	NYSE Arca	4:00	Citadel Securities, LLC	3
EYES	Second Sight Medical Products, Inc.	EYES	No	NASDAQ	4:00	Morgan Stanley	3
EZU	iShares MSCI Eurozone ETF	EZU	No	BATS	4:00	Wolverine Trading, LLC	3
FBC	Flagstar Bancorp, Inc.	FBC	No	NYSE	4:00	Citadel Securities, LLC	3
FBIO	Fortress Biotech, Inc.	FBIO	No	NASDAQ	4:00	Susquehanna Securities	3
FC	Franklin Covey Co.	FC	No	NYSE	4:00	Wolverine Trading, LLC	3
FCN	FTI Consulting, Inc.	FCN	No	NYSE	4:00	Morgan Stanley	3
FELP	Foresight Energy LP	FELP	No	NYSE	4:00	Citadel Securities, LLC	3
FENG	Phoenix New Media Limited	FENG	No	NYSE	4:00	Citadel Securities, LLC	3
FET	Forum Energy Technologies, Inc.	FET	No	NYSE	4:00	Susquehanna Securities	3
FICO	Fair Isaac Corporation	FICO	No	NYSE	4:00	Wolverine Trading, LLC	3
FIX	Comfort Systems USA, Inc.	FIX	No	NYSE	4:00	Susquehanna Securities	3
FLDM	Fluidigm Corporation	FLDM	No	NASDAQ	4:00	Citadel Securities, LLC	3
FLNT	Fluent, Inc.	FLNT	No	NASDAQ	4:00	Susquehanna Securities	3
FLOW	SPX FLOW, Inc.	FLOW	No	NYSE	4:00	Morgan Stanley	3
FLY	Fly Leasing Limited	FLY	No	NYSE	4:00	Citadel Securities, LLC	3
FM	iShares MSCI Frontier 100 ETF	FM	No	NYSE Arca	4:00	Susquehanna Securities	3
FMX	Fomento Economico Mexicano, S.A.B. de C.V.	FMX	No	NYSE	4:00	Citadel Securities, LLC	3
FNG	AdvisorShares New Tech and Media ETF	FNG	No	NYSE Arca	4:00	Susquehanna Securities	3



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
FOR	Forestar Group Inc.	FOR	No	NYSE	4:00	Susquehanna Securities	3
FPI	Farmland Partners Inc.	FPI	No	NYSE	4:00	Citadel Securities, LLC	3
FR	First Industrial Realty Trust, Inc.	FR	No	NYSE	4:00	Citadel Securities, LLC	3
FRGI	Fiesta Restaurant Group, Inc.	FRGI	No	NASDAQ	4:00	Morgan Stanley	3
FSTR	L.B. Foster Company	FSTR	No	NASDAQ	4:00	Morgan Stanley	3
FTAI	Fortress Transportation and Infrastructure Investors LLC	FTAI	No	NYSE	4:00	Citadel Securities, LLC	3
FULT	Fulton Financial Corporation	FULT	No	NASDAQ	4:00	Citadel Securities, LLC	3
FWONA	Formula One Group	FWONA	No	NASDAQ	4:00	Morgan Stanley	3
FWONK	Formula One Group	FWONK	No	NASDAQ	4:00	Susquehanna Securities	3
FXP	ProShares UltraShort FTSE China 50	FXP	Yes	NYSE Arca	4:00	Wolverine Trading, LLC	3
G	Genpact Limited	G	No	NYSE	4:00	Wolverine Trading, LLC	4
GATX	GATX Corporation	GATX	No	NYSE	4:00	Susquehanna Securities	4
GDI	Gardner Denver Holdings, Inc.	GDI	No	NYSE	4:00	Susquehanna Securities	4
GEF	Greif, Inc.	GEF	No	NYSE	4:00	Citadel Securities, LLC	4
GEN	Genesis Healthcare, Inc.	GEN	No	NYSE	4:00	Citadel Securities, LLC	4
GEOS	Geospace Technologies Corporation	GEOS	No	NASDAQ	4:00	Citadel Securities, LLC	4
GFF	Griffon Corporation	GFF	No	NYSE	4:00	Citadel Securities, LLC	4
GGG	Graco Inc.	GGG	No	NYSE	4:00	Citadel Securities, LLC	4
GHL	Greenhill & Co., Inc.	GHL	No	NYSE	4:00	Citadel Securities, LLC	4
GIL	Gildan Activewear Inc.	GIL	No	NYSE	4:00	Wolverine Trading, LLC	4
GLAD	Gladstone Capital Corporation	GLAD	No	NASDAQ	4:00	Citadel Securities, LLC	4
GLDD	Great Lakes Dredge & Dock Corporation	GLDD	No	NASDAQ	4:00	Morgan Stanley	4
GLIBA	GCI Liberty, Inc.	GLIBA	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GLL	ProShares UltraShort Gold	GLL	No	NYSE Arca	4:00	Wolverine Trading, LLC	4
GLOP	GasLog Partners LP	GLOP	No	NYSE	4:00	Susquehanna Securities	4

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
GLP	Global Partners LP	GLP	No	NYSE	4:00	Citadel Securities, LLC	4
GLYC	GlycoMimetics, Inc.	GLYC	No	NASDAQ	4:00	Citadel Securities, LLC	4
GNCA	Genocea Biosciences, Inc.	GNCA	No	NASDAQ	4:00	Citadel Securities, LLC	4
GNMX	Aevi Genomic Medicine, Inc.	GNMX	No	NASDAQ	4:00	Susquehanna Securities	4
GOOD	Gladstone Commercial Corporation	GOOD	No	NASDAQ	4:00	Citadel Securities, LLC	4
GPI	Group 1 Automotive, Inc.	GPI	No	NYSE	4:00	Wolverine Trading, LLC	4
GROW	U.S. Global Investors, Inc.	GROW	No	NASDAQ	4:00	Susquehanna Securities	4
GSUM	Gridsum Holding Inc.	GSUM	No	NASDAQ	4:00	Susquehanna Securities	4
GTE	Gran Tierra Energy Inc.	GTE	No	AMEX	4:00	Citadel Securities, LLC	4
GTY	Getty Realty Corp.	GTY	No	NYSE	4:00	Wolverine Trading, LLC	4
GURE	Gulf Resources, Inc.	GURE	No	NASDAQ	4:00	Citadel Securities, LLC	4
GV	The Goldfield Corporation	GV	No	AMEX	4:00	Citadel Securities, LLC	4
GVA	Granite Construction Incorporated	GVA	No	NYSE	4:00	Wolverine Trading, LLC	4
GWR	Genesee & Wyoming Inc.	GWR	No	NYSE	4:00	Wolverine Trading, LLC	4
GXG	Global X MSCI Colombia ETF	GXG	No	NYSE Arca	4:00	Susquehanna Securities	4
H	Hyatt Hotels Corporation	H	No	NYSE	4:00	Wolverine Trading, LLC	4
HAO	Invesco China Small Cap ETF	HAO	No	NYSE Arca	4:00	Wolverine Trading, LLC	4
HBM	HudBay Minerals Inc.	HBM	No	NYSE	4:00	Citadel Securities, LLC	4
HDGE	AdvisorShares Ranger Equity Bear ETF	HDGE	No	NYSE Arca	4:00	Susquehanna Securities	4
HE	Hawaiian Electric Industries, Inc.	HE	No	NYSE	4:00	Susquehanna Securities	4
HEP	Holly Energy Partners, L.P.	HEP	No	NYSE	4:00	Susquehanna Securities	4
HHC	The Howard Hughes Corporation	HHC	No	NYSE	4:00	Morgan Stanley	4
HI	Hillenbrand, Inc.	HI	No	NYSE	4:00	Wolverine Trading, LLC	4
HIFR	InfraREIT, Inc.	HIFR	No	NYSE	4:00	Susquehanna Securities	4
HIVE	Aerohive Networks, Inc.	HIVE	No	NYSE	4:00	Citadel Securities, LLC	4
HLIT	Harmonic Inc.	HLIT	No	NASDAQ	4:00	Susquehanna Securities	4

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
HLTH	Nobilis Health Corp.	HLTH	No	AMEX	4:00	Citadel Securities, LLC	4
HMHC	Houghton Mifflin Harcourt Company	HMHC	No	NASDAQ	4:00	Citadel Securities, LLC	4
HOLI	Hollysys Automation Technologies Ltd.	HOLI	No	NASDAQ	4:00	Morgan Stanley	4
HOMB	Home Bancshares, Inc.	HOMB	No	NASDAQ	4:00	Citadel Securities, LLC	4
HPJ	Highpower International, Inc.	HPJ	No	NASDAQ	4:00	Susquehanna Securities	4
HR	Healthcare Realty Trust Incorporated	HR	No	NYSE	4:00	Susquehanna Securities	4
HRTG	Heritage Insurance Holdings, Inc.	HRTG	No	NYSE	4:00	Citadel Securities, LLC	4
HT	Hersha Hospitality Trust	HT	No	NYSE	4:00	Susquehanna Securities	4
HTA	Healthcare Trust of America, Inc.	HTA	No	NYSE	4:00	Citadel Securities, LLC	4
HTGC	Hercules Capital, Inc.	HTGC	No	NYSE	4:00	Citadel Securities, LLC	4
HTH	Hilltop Holdings Inc.	HTH	No	NYSE	4:00	Citadel Securities, LLC	4
HWC	Hancock Whitney Corporation	HWC	No	NASDAQ	4:00	Citadel Securities, LLC	4
HXL	Hexcel Corporation	HXL	No	NYSE	4:00	Morgan Stanley	4
HYGS	Hydrogenics Corporation	HYGS	No	NASDAQ	4:00	Citadel Securities, LLC	4
HYLD	High Yield ETF	HYLD	No	NYSE Arca	4:00	Susquehanna Securities	4
HZO	MarineMax, Inc.	HZO	No	NYSE	4:00	Wolverine Trading, LLC	4
IART	Integra LifeSciences Holdings Corporation	IART	No	NASDAQ	4:00	Wolverine Trading, LLC	5
IAT	iShares U.S. Regional Banks ETF	IAT	No	NYSE Arca	4:00	Susquehanna Securities	5
IBKC	IBERIABANK Corporation	IBKC	No	NASDAQ	4:00	Susquehanna Securities	5
ICAD	iCAD Inc.	ICAD	No	NASDAQ	4:00	Citadel Securities, LLC	5
ICLR	ICON Public Limited Company	ICLR	No	NASDAQ	4:00	Citadel Securities, LLC	5
IDEX	Ideanomics, Inc.	IDEX	No	NASDAQ	4:00	Citadel Securities, LLC	5
IDRA	Idera Pharmaceuticals, Inc.	IDRA	No	NASDAQ	4:00	Morgan Stanley	5
IEI	iShares 3-7 Year Treasury Bond ETF	IEI	No	NASDAQ	4:00	Wolverine Trading, LLC	5
IEO	iShares U.S. Oil & Gas Exploration & Production ETF	IEO	No	BATS	4:00	Wolverine Trading, LLC	5
IEV	iShares Europe ETF	IEV	No	NYSE Arca	4:00	Wolverine Trading, LLC	5

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
IEX	IDEX Corporation	IEX	No	NYSE	4:00	Wolverine Trading, LLC	5
IEZ	iShares U.S. Oil Equipment & Services ETF	IEZ	No	NYSE Arca	4:00	Citadel Securities, LLC	5
IGN	iShares North American Tech-Multimedia Networking ETF	IGN	No	NYSE Arca	4:00	Susquehanna Securities	5
IJS	iShares S&P Small-Cap 600 Value ETF	IJS	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
ILF	iShares Latin America 40 ETF	ILF	No	NYSE Arca	4:00	Citadel Securities, LLC	5
IMKTA	Ingles Markets, Incorporated	IMKTA	No	NASDAQ	4:00	Citadel Securities, LLC	5
IMO	Imperial Oil Limited	IMO	No	AMEX	4:00	Citadel Securities, LLC	5
INT	World Fuel Services Corporation	INT	No	NYSE	4:00	Wolverine Trading, LLC	5
INVE	Identiv, Inc.	INVE	No	NASDAQ	4:00	Susquehanna Securities	5
INWK	InnerWorkings, Inc.	INWK	No	NASDAQ	4:00	Citadel Securities, LLC	5
IO	ION Geophysical Corporation	IO	No	NYSE	4:00	Susquehanna Securities	5
IRET	Investors Real Estate Trust	IRET	No	NYSE	4:00	Susquehanna Securities	5
IRT	Independence Realty Trust, Inc.	IRT	No	NYSE	4:00	Wolverine Trading, LLC	5
ISEE	IVERIC bio, Inc.	ISEE	No	NASDAQ	4:00	Citadel Securities, LLC	5
ITGR	Integer Holdings Corporation	ITGR	No	NYSE	4:00	Wolverine Trading, LLC	5
ITRI	Itron, Inc.	ITRI	No	NASDAQ	4:00	Citadel Securities, LLC	5
IVAC	Intevac, Inc.	IVAC	No	NASDAQ	4:00	Citadel Securities, LLC	5
IVR	Invesco Mortgage Capital Inc.	IVR	No	NYSE	4:00	Citadel Securities, LLC	5
IWB	iShares Russell 1000 ETF	IWB	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IWC	iShares Micro-Cap ETF	IWC	No	NYSE Arca	4:00	Citadel Securities, LLC	5
IWP	iShares Russell Mid-Cap Growth ETF	IWP	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IWR	iShares Russell Mid-Cap ETF	IWR	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IWS	iShares Russell Mid-Cap Value ETF	IWS	No	NYSE Arca	4:00	Susquehanna Securities	5
IYE	iShares U.S. Energy ETF	IYE	No	NYSE Arca	4:00	Citadel Securities, LLC	5
IYM	iShares U.S. Basic Materials ETF	IYM	No	NYSE Arca	4:00	Citadel Securities, LLC	5

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
IYW	iShares U.S. Technology ETF	IYW	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
IYZ	iShares U.S. Telecommunications ETF	IYZ	No	BATS	4:00	Citadel Securities, LLC	5
JAKK	JAKKS Pacific, Inc.	JAKK	No	NASDAQ	4:00	Morgan Stanley	5
JE	Just Energy Group Inc.	JE	No	NYSE	4:00	Citadel Securities, LLC	5
JILL	J.Jill, Inc.	JILL	No	NYSE	4:00	Susquehanna Securities	5
JO	iPath Series B Bloomberg Coffee Subindex Total Return ETN	JO	No	NYSE Arca	4:00	Susquehanna Securities	5
JRJC	China Finance Online Co. Limited	JRJC	No	NASDAQ	4:00	Susquehanna Securities	5
KALU	Kaiser Aluminum Corporation	KALU	No	NASDAQ	4:00	Susquehanna Securities	5
KBWB	Invesco KBW Bank ETF	KBWB	No	NASDAQ	4:00	Susquehanna Securities	5
KEP	Korea Electric Power Corporation	KEP	No	NYSE	4:00	Susquehanna Securities	5
KIE	SPDR S&P Insurance ETF	KIE	No	NYSE Arca	4:00	Citadel Securities, LLC	5
KIN	Kindred Biosciences, Inc.	KIN	No	NASDAQ	4:00	Citadel Securities, LLC	5
KIRK	Kirkland's, Inc.	KIRK	No	NASDAQ	4:00	Morgan Stanley	5
KLIC	Kulicke and Soffa Industries, Inc.	KLIC	No	NASDAQ	4:00	Morgan Stanley	5
KOL	VanEck Vectors Coal ETF	KOL	No	NYSE Arca	4:00	Citadel Securities, LLC	5
KOPN	Kopin Corporation	KOPN	No	NASDAQ	4:00	Susquehanna Securities	5
KRA	Kraton Corporation	KRA	No	NYSE	4:00	Wolverine Trading, LLC	5
KRC	Kilroy Realty Corporation	KRC	No	NYSE	4:00	Citadel Securities, LLC	5
KRNY	Kearny Financial Corp.	KRNY	No	NASDAQ	4:00	Susquehanna Securities	5
KW	Kennedy-Wilson Holdings, Inc.	KW	No	NYSE	4:00	Citadel Securities, LLC	5
KYN	Kayne Anderson MLP/Midstream Investment Company	KYN	No	NYSE	4:00	Susquehanna Securities	5
LAMR	Lamar Advertising Company	LAMR	No	NASDAQ	4:00	Susquehanna Securities	5
LCII	LCI Industries (LCII)	LCII	No	NYSE	4:00	Morgan Stanley	5
LDL	Lydall, Inc.	LDL	No	NYSE	4:00	Wolverine Trading, LLC	5
LEAF	Leaf Group Ltd.	LEAF	No	NYSE	4:00	Citadel Securities, LLC	5

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
LECO	Lincoln Electric Holdings, Inc.	LECO	No	NASDAQ	4:00	Morgan Stanley	5
LEE	Lee Enterprises, Incorporated	LEE	No	NYSE	4:00	Citadel Securities, LLC	5
LEJU	Leju Holdings Limited	LEJU	No	NYSE	4:00	Citadel Securities, LLC	5
LILA	Liberty Latin America Ltd.	LILA	No	NASDAQ	4:00	Citadel Securities, LLC	5
LILAK	Liberty Latin America Ltd.	LILAK	No	NASDAQ	4:00	Susquehanna Securities	5
LJPC	La Jolla Pharmaceutical Company	LJPC	No	NASDAQ	4:00	Citadel Securities, LLC	5
LMNX	Luminex Corporation	LMNX	No	NASDAQ	4:00	Citadel Securities, LLC	5
LN	LINE Corporation	LN	No	NYSE	4:00	Wolverine Trading, LLC	5
LNDC	Landec Corporation	LNDC	No	NASDAQ	4:00	Susquehanna Securities	5
LNT	Alliant Energy Corporation	LNT	No	NASDAQ	4:00	Susquehanna Securities	5
LORL	Loral Space & Communications Inc.	LORL	No	NASDAQ	4:00	Susquehanna Securities	5
LPCN	Lipocine Inc.	LPCN	No	NASDAQ	4:00	Citadel Securities, LLC	5
LQDT	Liquidity Services, Inc.	LQDT	No	NASDAQ	4:00	Susquehanna Securities	5
LRN	K12 Inc.	LRN	No	NYSE	4:00	Citadel Securities, LLC	5
LSXMA	The Liberty SiriusXM Group	LSXMA	No	NASDAQ	4:00	Susquehanna Securities	5
LTC	LTC Properties, Inc.	LTC	No	NYSE	4:00	Citadel Securities, LLC	5
LTRPA	Liberty TripAdvisor Holdings, Inc.	LTRPA	No	NASDAQ	4:00	Susquehanna Securities	5
LX	LexinFintech Holdings Ltd.	LX	No	NASDAQ	4:00	Citadel Securities, LLC	5
LXP	Lexington Realty Trust	LXP	No	NYSE	4:00	Susquehanna Securities	5
LXU	LSB Industries, Inc.	LXU	No	NYSE	4:00	Morgan Stanley	5
MACK	Merrimack Pharmaceuticals, Inc.	MACK	No	NASDAQ	4:00	Morgan Stanley	6
MAIN	Main Street Capital Corporation	MAIN	No	NYSE	4:00	Wolverine Trading, LLC	6
MANT	ManTech International Corporation	MANT	No	NASDAQ	4:00	Susquehanna Securities	6
MANU	Manchester United plc	MANU	No	NYSE	4:00	Citadel Securities, LLC	6
MATX	Matson, Inc.	MATX	No	NYSE	4:00	Susquehanna Securities	6
MBB	iShares MBS ETF	MBB	No	NASDAQ	4:00	Susquehanna Securities	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
MCF	Contango Oil & Gas Company	MCF	No	AMEX	4:00	Morgan Stanley	6
MCRB	Seres Therapeutics, Inc.	MCRB	No	NASDAQ	4:00	Citadel Securities, LLC	6
MCRI	Monarch Casino & Resort, Inc.	MCRI	No	NASDAQ	4:00	Susquehanna Securities	6
MD	MEDNAX, Inc.	MD	No	NYSE	4:00	Wolverine Trading, LLC	6
MDCA	MDC Partners Inc.	MDCA	No	NASDAQ	4:00	Susquehanna Securities	6
MDP	Meredith Corporation	MDP	No	NYSE	4:00	Wolverine Trading, LLC	6
MEI	Methode Electronics, Inc.	MEI	No	NYSE	4:00	Citadel Securities, LLC	6
MEIP	MEI Pharma, Inc.	MEIP	No	NASDAQ	4:00	Citadel Securities, LLC	6
MERC	Mercer International Inc.	MERC	No	NASDAQ	4:00	Susquehanna Securities	6
MGPI	MGP Ingredients, Inc.	MGPI	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MIDZ	Direxion Daily Mid Cap Bear 3X Shares	MIDZ	No	NYSE Arca	4:00	Susquehanna Securities	6
MIND	Mitcham Industries, Inc.	MIND	No	NASDAQ	4:00	Susquehanna Securities	6
MINI	Mobile Mini, Inc.	MINI	No	NASDAQ	4:00	Citadel Securities, LLC	6
MITT	AG Mortgage Investment Trust, Inc.	MITT	No	NYSE	4:00	Citadel Securities, LLC	6
MKTX	MarketAxess Holdings Inc.	MKTX	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MLNT	Melinta Therapeutics, Inc.	MLNT	No	NASDAQ	4:00	Morgan Stanley	6
MNRO	Monro, Inc.	MNRO	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MNTX	Manitex International, Inc.	MNTX	No	NASDAQ	4:00	Susquehanna Securities	6
MOBL	MobileIron, Inc.	MOBL	No	NASDAQ	4:00	Morgan Stanley	6
MODN	Model N, Inc.	MODN	No	NYSE	4:00	Morgan Stanley	6
MOO	VanEck Vectors Agribusiness ETF	MOO	No	NYSE Arca	4:15	Citadel Securities, LLC	6
MPAA	Motorcar Parts of America, Inc.	MPAA	No	NASDAQ	4:00	Susquehanna Securities	6
MRC	MRC Global Inc.	MRC	No	NYSE	4:00	Citadel Securities, LLC	6
MSGN	MSG Networks, Inc.	MSGN	No	NYSE	4:00	Morgan Stanley	6
MSTR	MicroStrategy Incorporated	MSTR	No	NASDAQ	4:00	Morgan Stanley	6
MUB	iShares National Muni Bond ETF	MUB	No	NYSE Arca	4:00	Morgan Stanley	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
MUFG	Mitsubishi UFJ Financial Group, Inc.	MUFG	No	NYSE	4:00	Susquehanna Securities	6
MUSA	Murphy USA Inc.	MUSA	No	NYSE	4:00	Wolverine Trading, LLC	6
MVO	MV Oil Trust	MVO	No	NYSE	4:00	Susquehanna Securities	6
MWA	Mueller Water Products, Inc.	MWA	No	NYSE	4:00	Susquehanna Securities	6
NATI	National Instruments Corporation	NATI	No	NASDAQ	4:00	Citadel Securities, LLC	6
NCI	Navigant Consulting, Inc.	NCI	No	NYSE	4:00	Susquehanna Securities	6
NDSN	Nordson Corporation	NDSN	No	NASDAQ	4:00	Wolverine Trading, LLC	6
NEOS	Neos Therapeutics, Inc.	NEOS	No	NASDAQ	4:00	Susquehanna Securities	6
NEP	NextEra Energy Partners, LP	NEP	No	NYSE	4:00	Wolverine Trading, LLC	6
NHC	National HealthCare Corporation	NHC	No	AMEX	4:00	Wolverine Trading, LLC	6
NHTC	Natural Health Trends Corp.	NHTC	No	NASDAQ	4:00	Susquehanna Securities	6
NLS	Nautilus, Inc.	NLS	No	NYSE	4:00	Susquehanna Securities	6
NM	Navios Maritime Holdings Inc.	NM	No	NYSE	4:00	Morgan Stanley	6
NMFC	New Mountain Finance Corporation	NMFC	No	NYSE	4:00	Susquehanna Securities	6
NMIH	NMI Holdings, Inc.	NMIH	No	NASDAQ	4:00	Citadel Securities, LLC	6
NNN	National Retail Properties, Inc.	NNN	No	NYSE	4:00	Wolverine Trading, LLC	6
NOAH	Noah Holdings Limited	NOAH	No	NYSE	4:00	Citadel Securities, LLC	6
NPO	EnPro Industries, Inc.	NPO	No	NYSE	4:00	Morgan Stanley	6
NRE	NorthStar Realty Europe Corp.	NRE	No	NYSE	4:00	Susquehanna Securities	6
NRP	Natural Resource Partners L.P.	NRP	No	NYSE	4:00	Susquehanna Securities	6
NSA	National Storage Affiliates Trust	NSA	No	NYSE	4:00	Susquehanna Securities	6
NSTG	NanoString Technologies, Inc.	NSTG	No	NASDAQ	4:00	Citadel Securities, LLC	6
NTCT	NetScout Systems, Inc.	NTCT	No	NASDAQ	4:00	Wolverine Trading, LLC	6
NTGR	NETGEAR, INC.	NTGR	No	NASDAQ	4:00	Morgan Stanley	6
NTP	Nam Tai Property Inc.	NTP	No	NYSE	4:00	Citadel Securities, LLC	6
NTRP	Neurotrope, Inc.	NTRP	No	NASDAQ	4:00	Citadel Securities, LLC	6

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
NVMI	Nova Measuring Instruments Ltd.	NVMI	No	NASDAQ	4:00	Susquehanna Securities	6
NWPX	Northwest Pipe Company	NWPX	No	NASDAQ	4:00	Morgan Stanley	6
NWS	News Corporation	NWS	No	NASDAQ	4:00	Susquehanna Securities	6
NX	Quanex Building Products Corporation	NX	No	NYSE	4:00	Susquehanna Securities	6
NYMT	New York Mortgage Trust, Inc.	NYMT	No	NASDAQ	4:00	Citadel Securities, LLC	6
OBE	Obsidian Energy Ltd.	OBE	No	NYSE	4:00	Morgan Stanley	7
OCSL	Oaktree Specialty Lending Corporation	OCSL	No	NASDAQ	4:00	Morgan Stanley	7
OEF	iShares S&P 100 ETF	OEF	No	NYSE Arca	4:15	Wolverine Trading, LLC	7
OFIX	Orthofix Medical Inc.	OFIX	No	NASDAQ	4:00	Wolverine Trading, LLC	7
OIS	Oil States International, Inc.	OIS	No	NYSE	4:00	Morgan Stanley	7
OMN	OMNOVA Solutions Inc.	OMN	No	NYSE	4:00	Citadel Securities, LLC	7
ONDK	On Deck Capital, Inc.	ONDK	No	NYSE	4:00	Morgan Stanley	7
ONVO	Organovo Holdings, Inc.	ONVO	No	NASDAQ	4:00	Morgan Stanley	7
OPB	Opus Bank	OPB	No	NASDAQ	4:00	Citadel Securities, LLC	7
ORA	Ormat Technologies, Inc.	ORA	No	NYSE	4:00	Wolverine Trading, LLC	7
ORAN	Orange S.A.	ORAN	No	NYSE	4:00	Wolverine Trading, LLC	7
ORBC	ORBCOMM Inc.	ORBC	No	NASDAQ	4:00	Susquehanna Securities	7
ORI	Old Republic International Corporation	ORI	No	NYSE	4:00	Citadel Securities, LLC	7
ORMP	Oramed Pharmaceuticals Inc.	ORMP	No	NASDAQ	4:00	Citadel Securities, LLC	7
OSPN	OneSpan Inc.	OSPN	No	NASDAQ	4:00	Morgan Stanley	7
OSUR	OraSure Technologies, Inc.	OSUR	No	NASDAQ	4:00	Morgan Stanley	7
OTIC	Otonomy, Inc.	OTIC	No	NASDAQ	4:00	Susquehanna Securities	7
PAG	Penske Automotive Group, Inc.	PAG	No	NYSE	4:00	Wolverine Trading, LLC	7
PBFX	PBF Logistics LP	PBFX	No	NYSE	4:00	Susquehanna Securities	7
PBRA	Petroleo Brasileiro S.A. - Petrobras	PBRA	No	NYSE	4:00	Wolverine Trading, LLC	7
PBT	Permian Basin Royalty Trust	PBT	No	NYSE	4:00	Citadel Securities, LLC	7

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
PCH	PotlatchDeltic Corporation	PCH	No	NASDAQ	4:00	Citadel Securities, LLC	7
PCOM	Points International Ltd.	PCOM	No	NASDAQ	4:00	Citadel Securities, LLC	7
PCYG	Park City Group, Inc.	PCYG	No	NASDAQ	4:00	Morgan Stanley	7
PDLI	PDL BioPharma, Inc.	PDLI	No	NASDAQ	4:00	Morgan Stanley	7
PDS	Precision Drilling Corporation	PDS	No	NYSE	4:00	Citadel Securities, LLC	7
PEGA	Pegasystems Inc.	PEGA	No	NASDAQ	4:00	Morgan Stanley	7
PERI	Perion Network Ltd.	PERI	No	NASDAQ	4:00	Morgan Stanley	7
PETX	Aratana Therapeutics, Inc.	PETX	No	NASDAQ	4:00	Susquehanna Securities	7
PFSI	PennyMac Financial Services, Inc.	PFSI	No	NYSE	4:00	Citadel Securities, LLC	7
PFSW	PFSweb, Inc.	PFSW	No	NASDAQ	4:00	Susquehanna Securities	7
PGF	Invesco Financial Preferred ETF	PGF	No	NYSE Arca	4:00	Citadel Securities, LLC	7
PHX	Panhandle Oil and Gas Inc.	PHX	No	NYSE	4:00	Citadel Securities, LLC	7
PICO	PICO Holdings, Inc.	PICO	No	NASDAQ	4:00	Citadel Securities, LLC	7
PJC	Piper Jaffray Companies	PJC	No	NYSE	4:00	Susquehanna Securities	7
PJT	PJT Partners Inc.	PJT	No	NYSE	4:00	Citadel Securities, LLC	7
PKX	POSCO	PKX	No	NYSE	4:00	Morgan Stanley	7
PLAB	Photronics, Inc.	PLAB	No	NASDAQ	4:00	Citadel Securities, LLC	7
PLOW	Douglas Dynamics, Inc.	PLOW	No	NYSE	4:00	Citadel Securities, LLC	7
PMT	Pennymac Mortgage Investment Trust	PMT	No	NYSE	4:00	Morgan Stanley	7
PNFP	Pinnacle Financial Partners, Inc.	PNFP	No	NASDAQ	4:00	Citadel Securities, LLC	7
PNW	Pinnacle West Capital Corporation	PNW	No	NYSE	4:00	Wolverine Trading, LLC	7
POWI	Power Integrations, Inc.	POWI	No	NASDAQ	4:00	Susquehanna Securities	7
PRAA	PRA Group, Inc.	PRAA	No	NASDAQ	4:00	IMC Financial Markets	7
PRAH	PRA Health Sciences, Inc.	PRAH	No	NASDAQ	4:00	Susquehanna Securities	7
PRI	Primerica, Inc.	PRI	No	NYSE	4:00	Wolverine Trading, LLC	7
PRIM	Primoris Services Corporation	PRIM	No	NASDAQ	4:00	Susquehanna Securities	7

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
PSMT	PriceSmart, Inc.	PSMT	No	NASDAQ	4:00	Wolverine Trading, LLC	7
PSQ	ProShares Short QQQ	PSQ	No	NYSE Arca	4:00	Citadel Securities, LLC	7
PST	ProShares UltraShort 7-10 Year Treasury	PST	No	NYSE Arca	4:00	Susquehanna Securities	7
PSXP	Phillips 66 Partners LP	PSXP	No	NYSE	4:00	IMC Financial Markets	7
PTR	PetroChina Company Limited	PTR	No	NYSE	4:00	Wolverine Trading, LLC	7
PVL	Permianville Royalty Trust	PVL	No	NYSE	4:00	Citadel Securities, LLC	7
QGEN	QIAGEN N.V.	QGEN	No	NYSE	4:00	Wolverine Trading, LLC	7
QTWO	Q2 Holdings, Inc.	QTWO	No	NYSE	4:00	Susquehanna Securities	7
QUAD	Quad/Graphics, Inc.	QUAD	No	NYSE	4:00	Citadel Securities, LLC	7
QUIK	QuickLogic Corporation	QUIK	No	NASDAQ	4:00	Citadel Securities, LLC	7
QUOT	Quotient Technology Inc.	QUOT	No	NYSE	4:00	Morgan Stanley	7
RAIL	Freight Car America, Inc.	RAIL	No	NASDAQ	4:00	Citadel Securities, LLC	7
RBA	Ritchie Bros. Auctioneers Incorporated	RBA	No	NYSE	4:00	Citadel Securities, LLC	7
RCI	Rogers Communications Inc.	RCI	No	NYSE	4:00	Susquehanna Securities	7
RDI	Reading International, Inc.	RDI	No	NASDAQ	4:00	Susquehanna Securities	7
RDY	Dr. Reddy's Laboratories Limited	RDY	No	NYSE	4:00	Citadel Securities, LLC	7
RE	Everest Re Group, Ltd.	RE	No	NYSE	4:00	Wolverine Trading, LLC	7
RECN	Resources Connection, Inc.	RECN	No	NASDAQ	4:00	Susquehanna Securities	7
REFR	Research Frontiers Incorporated	REFR	No	NASDAQ	4:00	Susquehanna Securities	7
REG	Regency Centers Corporation	REG	No	NASDAQ	4:00	Citadel Securities, LLC	7
REMX	VanEck Vectors Rare Earth/Strategic Metals ETF	REMX	No	NYSE Arca	4:00	Citadel Securities, LLC	7
RESN	Resonant Inc.	RESN	No	NASDAQ	4:00	Susquehanna Securities	7
RGLS	Regulus Therapeutics Inc.	RGLS	No	NASDAQ	4:00	Citadel Securities, LLC	7
RHP	Ryman Hospitality Properties, Inc.	RHP	No	NYSE	4:00	Citadel Securities, LLC	7
RICK	RCI Hospitality Holdings, Inc.	RICK	No	NASDAQ	4:00	Citadel Securities, LLC	7
RM	Regional Management Corp.	RM	No	NYSE	4:00	Susquehanna Securities	7

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RNR	RenaissanceRe Holdings Ltd.	RNR	No	NYSE	4:00	Wolverine Trading, LLC	7
RNWK	RealNetworks, Inc.	RNWK	No	NASDAQ	4:00	Citadel Securities, LLC	7
ROG	Rogers Corporation	ROG	No	NYSE	4:00	Wolverine Trading, LLC	7
ROIC	Retail Opportunity Investments Corp.	ROIC	No	NASDAQ	4:00	Susquehanna Securities	7
RTEC	Rudolph Technologies, Inc.	RTEC	No	NYSE	4:00	Morgan Stanley	7
RTH	VanEck Vectors Retail ETF	RTH	No	NYSE Arca	4:00	Wolverine Trading, LLC	7
RUSHA	Rush Enterprises, Inc.	RUSHA	No	NASDAQ	4:00	Susquehanna Securities	7
RVNC	Revance Therapeutics, Inc.	RVNC	No	NASDAQ	4:00	Citadel Securities, LLC	7
RWM	ProShares Short Russell2000	RWM	No	NYSE Arca	4:00	Citadel Securities, LLC	7
RWR	SPDR Dow Jones REIT ETF	RWR	No	NYSE Arca	4:00	Susquehanna Securities	7
RWT	Redwood Trust, Inc.	RWT	No	NYSE	4:00	Morgan Stanley	7
RXN	Rexnord Corporation	RXN	No	NYSE	4:00	Wolverine Trading, LLC	7
RYI	Ryerson Holding Corporation	RYI	No	NYSE	4:00	Citadel Securities, LLC	7
RYN	Rayonier Inc.	RYN	No	NYSE	4:00	Morgan Stanley	7
SAFT	Safety Insurance Group, Inc.	SAFT	No	NASDAQ	4:00	Citadel Securities, LLC	8
SANM	Sanmina Corporation	SANM	No	NASDAQ	4:00	Morgan Stanley	8
SANW	S&W Seed Company	SANW	No	NASDAQ	4:00	Morgan Stanley	8
SB	Safe Bulkers, Inc.	SB	No	NYSE	4:00	Morgan Stanley	8
SBS	Companhia de Saneamento Basico do Estado de Sao Paulo	SBS	No	NYSE	4:00	Susquehanna Securities	8
SCHL	Scholastic Corporation	SCHL	No	NASDAQ	4:00	Morgan Stanley	8
SDLP	Seadrill Partners LLC	SDLP	No	NYSE	4:00	Morgan Stanley	8
SDR	SandRidge Mississippian Trust II	SDR	No	NYSE	4:00	Citadel Securities, LLC	8
SDT	SandRidge Mississippian Trust I	SDT	No	NYSE	4:00	Citadel Securities, LLC	8
SDY	SPDR S&P Dividend ETF	SDY	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
SEAC	SeaChange International, Inc.	SEAC	No	NASDAQ	4:00	Citadel Securities, LLC	8

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
SEIC	SEI Investments Company	SEIC	No	NASDAQ	4:00	Susquehanna Securities	8
SHO	Sunstone Hotel Investors, Inc.	SHO	No	NYSE	4:00	Citadel Securities, LLC	8
SHOO	Steven Madden, Ltd.	SHOO	No	NASDAQ	4:00	Morgan Stanley	8
SHOS	Sears Hometown and Outlet Stores, Inc.	SHOS	No	NASDAQ	4:00	Citadel Securities, LLC	8
SIMO	Silicon Motion Technology Corporation	SIMO	No	NASDAQ	4:00	Morgan Stanley	8
SITC	SITE Centers Corp.	SITC	No	NYSE	4:00	Susquehanna Securities	8
SIVR	Aberdeen Standard Physical Silver Shares ETF	SIVR	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
SJNK	SPDR Bloomberg Barclays Short Term High Yield Bond ETF	SJNK	No	NYSE Arca	4:00	Susquehanna Securities	8
SKYW	SkyWest, Inc.	SKYW	No	NASDAQ	4:00	Morgan Stanley	8
SLGN	Silgan Holdings Inc.	SLGN	No	NASDAQ	4:00	Morgan Stanley	8
SLX	VanEck Vectors Steel ETF	SLX	No	NYSE Arca	4:15	Susquehanna Securities	8
SMFG	Sumitomo Mitsui Financial Group, Inc.	SMFG	No	NYSE	4:00	Citadel Securities, LLC	8
SMRT	Stein Mart, Inc.	SMRT	No	NASDAQ	4:00	Citadel Securities, LLC	8
SND	Smart Sand, Inc.	SND	No	NASDAQ	4:00	Susquehanna Securities	8
SNN	Smith & Nephew plc	SNN	No	NYSE	4:00	Susquehanna Securities	8
SNR	New Senior Investment Group Inc.	SNR	No	NYSE	4:00	Morgan Stanley	8
SOCL	Global X Social Media ETF	SOCL	No	NASDAQ	4:00	Susquehanna Securities	8
SOL	ReneSola Ltd	SOL	No	NYSE	4:00	Morgan Stanley	8
SON	Sonoco Products Company	SON	No	NYSE	4:00	Susquehanna Securities	8
SOYB	Teucrium Soybean	SOYB	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
SPLV	Invesco S&P 500 Low Volatility ETF	SPLV	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
SPWH	Sportsman's Warehouse Holdings, Inc.	SPWH	No	NASDAQ	4:00	Susquehanna Securities	8
SPXC	SPX Corporation	SPXC	No	NYSE	4:00	Morgan Stanley	8
SRC	Spirit Realty Capital, Inc.	SRC	No	NYSE	4:00	Susquehanna Securities	8
SREV	ServiceSource International, Inc.	SREV	No	NASDAQ	4:00	Citadel Securities, LLC	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
SRI	Stoneridge, Inc.	SRI	No	NYSE	4:00	Citadel Securities, LLC	8
SRS	ProShares UltraShort Real Estate	SRS	Yes	NYSE Arca	4:00	Susquehanna Securities	8
SRTY	ProShares UltraPro Short Russell2000	SRTY	No	NYSE Arca	4:00	Susquehanna Securities	8
SSI	Stage Stores, Inc.	SSI	No	NYSE	4:00	Citadel Securities, LLC	8
STAG	STAG Industrial, Inc.	STAG	No	NYSE	4:00	Citadel Securities, LLC	8
STAR	iStar Inc.	STAR	No	NYSE	4:00	Morgan Stanley	8
STE	STERIS plc	STE	No	NYSE	4:00	Wolverine Trading, LLC	8
STML	Stemline Therapeutics, Inc.	STML	No	NASDAQ	4:00	Susquehanna Securities	8
STON	StoneMor Partners L.P.	STON	No	NYSE	4:00	Morgan Stanley	8
STRA	Strategic Education, Inc.	STRA	No	NASDAQ	4:00	Susquehanna Securities	8
STRL	Sterling Construction Company, Inc.	STRL	No	NASDAQ	4:00	Susquehanna Securities	8
SUP	Superior Industries International, Inc.	SUP	No	NYSE	4:00	Citadel Securities, LLC	8
SXC	SunCoke Energy, Inc.	SXC	No	NYSE	4:00	Susquehanna Securities	8
SYNC	Synacor, Inc.	SYNC	No	NASDAQ	4:00	Susquehanna Securities	8
SYNH	Syneos Health, Inc.	SYNH	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TBPH	Theravance Biopharma, Inc.	TBPH	No	NASDAQ	4:00	Citadel Securities, LLC	8
TCF	TCF Financial Corporation	TCF	No	NYSE	4:00	Susquehanna Securities	8
TCO	Taubman Centers, Inc.	TCO	No	NYSE	4:00	Wolverine Trading, LLC	8
TCRD	THL Credit, Inc.	TCRD	No	NASDAQ	4:00	Susquehanna Securities	8
TCX	Tucows Inc.	TCX	No	NASDAQ	4:00	Susquehanna Securities	8
TEF	Telefonica, S.A.	TEF	No	NYSE	4:00	Citadel Securities, LLC	8
TEO	Telecom Argentina S.A.	TEO	No	NYSE	4:00	Citadel Securities, LLC	8
TERP	TerraForm Power, Inc.	TERP	No	NASDAQ	4:00	Susquehanna Securities	8
TFSL	TFS Financial Corporation	TFSL	No	NASDAQ	4:00	Citadel Securities, LLC	8
TGI	Triumph Group, Inc.	TGI	No	NYSE	4:00	Susquehanna Securities	8
THR	Thermon Group Holdings, Inc.	THR	No	NYSE	4:00	Susquehanna Securities	8

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
THRM	Gentherm Incorporated	THRM	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TI	Telecom Italia S.p.A.	TI	No	NYSE	4:00	Citadel Securities, LLC	8
TIP	iShares TIPS Bond ETF	TIP	No	NYSE Arca	4:00	Wolverine Trading, LLC	8
TITN	Titan Machinery Inc.	TITN	No	NASDAQ	4:00	Morgan Stanley	8
TLGT	Teligent, Inc.	TLGT	No	NASDAQ	4:00	Citadel Securities, LLC	8
TMK	Torchmark Corporation	TMK	No	NYSE	4:00	Wolverine Trading, LLC	8
TMST	TimkenSteel Corporation	TMST	No	NYSE	4:00	Citadel Securities, LLC	8
TNK	Teekay Tankers Ltd.	TNK	No	NYSE	4:00	Morgan Stanley	8
TNP	Tsakos Energy Navigation Limited	TNP	No	NYSE	4:00	Susquehanna Securities	8
TOUR	Tuniu Corporation	TOUR	No	NASDAQ	4:00	Susquehanna Securities	8
TOWN	TowneBank	TOWN	No	NASDAQ	4:00	Citadel Securities, LLC	8
TRMK	Trustmark Corporation	TRMK	No	NASDAQ	4:00	Susquehanna Securities	8
TRUE	TrueCar, Inc.	TRUE	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TRX	Tanzanian Gold Corporation	TRX	No	AMEX	4:00	Susquehanna Securities	8
TSE	Trinseo S.A.	TSE	No	NYSE	4:00	Wolverine Trading, LLC	8
TSU	Tim Participacoes S.A.	TSU	No	NYSE	4:00	Citadel Securities, LLC	8
TTC	The Toro Company	TTC	No	NYSE	4:00	Wolverine Trading, LLC	8
TTEK	Tetra Tech, Inc.	TTEK	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TTMI	TTM Technologies, Inc.	TTMI	No	NASDAQ	4:00	Susquehanna Securities	8
TU	TELUS Corporation	TU	No	NYSE	4:00	Citadel Securities, LLC	8
TUES	Tuesday Morning Corporation	TUES	No	NASDAQ	4:00	Citadel Securities, LLC	8
TVTY	Tivity Health, Inc.	TVTY	No	NASDAQ	4:00	Citadel Securities, LLC	8
TWI	Titan International, Inc.	TWI	No	NYSE	4:00	Morgan Stanley	8
UAN	CVR Partners, LP	UAN	No	NYSE	4:00	Susquehanna Securities	9
UBIO	ProShares UltraPro Nasdaq Biotechnology	UBIO	No	NASDAQ	4:00	Susquehanna Securities	9
UDN	Invesco DB US Dollar Index Bearish Fund	UDN	No	NYSE Arca	4:00	Wolverine Trading, LLC	9

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
UDR	UDR, Inc.	UDR	No	NYSE	4:00	Susquehanna Securities	9
UEIC	Universal Electronics Inc.	UEIC	No	NASDAQ	4:00	Susquehanna Securities	9
UFPI	Universal Forest Products, Inc.	UFPI	No	NASDAQ	4:00	Citadel Securities, LLC	9
UGI	UGI Corporation	UGI	No	NYSE	4:00	Citadel Securities, LLC	9
UGL	ProShares Ultra Gold	UGL	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
UIHC	United Insurance Holdings Corp.	UIHC	No	NASDAQ	4:00	Morgan Stanley	9
UNT	Unit Corporation	UNT	No	NYSE	4:00	Morgan Stanley	9
URE	ProShares Ultra Real Estate	URE	Yes	NYSE Arca	4:00	Wolverine Trading, LLC	9
URTY	ProShares UltraPro Russell2000	URTY	No	NYSE Arca	4:00	Susquehanna Securities	9
USD	ProShares Ultra Semiconductors	USD	No	NYSE Arca	4:00	Susquehanna Securities	9
USMV	iShares Edge MSCI Min Vol USA ETF	USMV	No	BATS	4:00	Wolverine Trading, LLC	9
USNA	USANA Health Sciences, Inc.	USNA	No	NYSE	4:00	Citadel Securities, LLC	9
VBLT	Vascular Biogenics Ltd.	VBLT	No	NASDAQ	4:00	Citadel Securities, LLC	9
VBR	Vanguard Small-Cap Value ETF	VBR	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VCRA	Vocera Communications, Inc.	VCRA	No	NYSE	4:00	Susquehanna Securities	9
VCYT	Veracyte, Inc.	VCYT	No	NASDAQ	4:00	Citadel Securities, LLC	9
VDE	Vanguard Energy ETF	VDE	No	NYSE Arca	4:00	Susquehanna Securities	9
VEC	Vectrus, Inc.	VEC	No	NYSE	4:00	Susquehanna Securities	9
VEON	VEON Ltd.	VEON	No	NASDAQ	4:00	Morgan Stanley	9
VFH	Vanguard Financials ETF	VFH	No	NYSE Arca	4:00	Susquehanna Securities	9
VIV	Telefonica Brasil S.A.	VIV	No	NYSE	4:00	Citadel Securities, LLC	9
VIVO	Meridian Bioscience, Inc.	VIVO	No	NASDAQ	4:00	Citadel Securities, LLC	9
VLRS	Controladora Vuela Compania de Aviacion, S.A.B. de C.V.	VLRS	No	NYSE	4:00	Citadel Securities, LLC	9
VOC	VOC Energy Trust	VOC	No	NYSE	4:00	Morgan Stanley	9
VOE	Vanguard Mid-Cap Value ETF	VOE	No	NYSE Arca	4:00	Wolverine Trading, LLC	9

Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
VOXX	VOXX International Corporation	VOXX	No	NASDAQ	4:00	Susquehanna Securities	9
VREX	Varex Imaging Corporation	VREX	No	NASDAQ	4:00	Citadel Securities, LLC	9
VSTO	Vista Outdoor Inc.	VSTO	No	NYSE	4:00	Susquehanna Securities	9
VTNR	Vertex Energy, Inc.	VTNR	No	NASDAQ	4:00	Citadel Securities, LLC	9
VVUS	VIVUS, Inc.	VVUS	Yes	NASDAQ	4:00	Susquehanna Securities	9
VXUS	Vanguard Total International Stock Index Fund ETF Shares	VXUS	No	NASDAQ	4:00	Susquehanna Securities	9
VXZB	iPath Series B S&P 500 VIX Mid-Term Futures ETN	VXZB	No	BATS	4:15	Susquehanna Securities	9
VYGR	Voyager Therapeutics, Inc.	VYGR	No	NASDAQ	4:00	Citadel Securities, LLC	9
VYM	Vanguard High Dividend Yield ETF	VYM	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
WAIR	Wesco Aircraft Holdings, Inc.	WAIR	No	NYSE	4:00	Citadel Securities, LLC	10
WBAI	500.com Limited	WBAI	No	NYSE	4:00	Citadel Securities, LLC	10
WBT	Welbilt, Inc.	WBT	No	NYSE	4:00	Susquehanna Securities	10
WCC	WESCO International, Inc.	WCC	No	NYSE	4:00	Morgan Stanley	10
WD	Walker & Dunlop, Inc.	WD	No	NYSE	4:00	Citadel Securities, LLC	10
WEX	WEX Inc.	WEX	No	NYSE	4:00	Wolverine Trading, LLC	10
WIT	Wipro Limited	WIT	No	NYSE	4:00	Morgan Stanley	10
WLKP	Westlake Chemical Partners LP	WLKP	No	NYSE	4:00	Susquehanna Securities	10
WMC	Western Asset Mortgage Capital Corporation	WMC	No	NYSE	4:00	Morgan Stanley	10
WMS	Advanced Drainage Systems, Inc.	WMS	No	NYSE	4:00	Susquehanna Securities	10
WNC	Wabash National Corporation	WNC	No	NYSE	4:00	Morgan Stanley	10
WPP	WPP plc	WPP	No	NYSE	4:00	Wolverine Trading, LLC	10
WRLD	World Acceptance Corporation	WRLD	No	NASDAQ	4:00	Susquehanna Securities	10
WSBF	Waterstone Financial, Inc.	WSBF	No	NASDAQ	4:00	Citadel Securities, LLC	10
WSR	Whitestone REIT	WSR	No	NYSE	4:00	Susquehanna Securities	10
WTFC	Wintrust Financial Corporation	WTFC	No	NASDAQ	4:00	Susquehanna Securities	10

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WTR	Aqua America, Inc.	WTR	No	NYSE	4:00	Wolverine Trading, LLC	10
XAN	Exantas Capital Corporation	XAN	No	NYSE	4:00	Morgan Stanley	10
XBIT	XBiotech Inc.	XBIT	No	NASDAQ	4:00	Citadel Securities, LLC	10
XHR	Xenia Hotels & Resorts, Inc.	XHR	No	NYSE	4:00	Susquehanna Securities	10
XNCR	Xencor, Inc.	XNCR	No	NASDAQ	4:00	Citadel Securities, LLC	10
XPER	Xperi Corporation	XPER	No	NASDAQ	4:00	Morgan Stanley	10
XPP	ProShares Ultra FTSE China 50	XPP	No	NYSE Arca	4:00	Wolverine Trading, LLC	10
YCS	ProShares UltraShort Yen	YCS	No	NYSE Arca	4:00	Wolverine Trading, LLC	10
ZAGG	ZAGG Inc	ZAGG	No	NASDAQ	4:00	Morgan Stanley	11
ZBIO	ProShares UltraPro Short Nasdaq Biotechnology	ZBIO	No	NASDAQ	4:00	Wolverine Trading, LLC	11
ZEUS	Olympic Steel, Inc.	ZEUS	No	NASDAQ	4:00	Citadel Securities, LLC	11
ZFGN	Zafgen, Inc.	ZFGN	No	NASDAQ	4:00	Citadel Securities, LLC	11
ZNH	China Southern Airlines Company Limited	ZNH	No	NYSE	4:00	Susquehanna Securities	11
ZSL	ProShares UltraShort Silver	ZSL	No	NYSE Arca	4:00	Susquehanna Securities	11

Please contact MIAX Options Listings with any questions.

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