



The option classes listed below will begin trading on the MIAX Emerald Exchange at the start of trading on **Monday, April 1, 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
AAL	American Airlines Group Inc.	AAL	Yes	NASDAQ	4:00	IMC Financial Markets	1
AAOI	Applied Optoelectronics, Inc.	AAOI	Yes	NASDAQ	4:00	Citadel Securities, LLC	1
ABBV	AbbVie Inc.	ABBV	Yes	NYSE	4:00	IMC Financial Markets	1
ABT	Abbott Laboratories	ABT	Yes	NYSE	4:00	IMC Financial Markets	1
ACAD	ACADIA Pharmaceuticals, Inc.	ACAD	No	NASDAQ	4:00	Citadel Securities, LLC	1
ACHC	Acadia Healthcare Company, Inc.	ACHC	No	NASDAQ	4:00	Wolverine Trading, LLC	1
ACN	Accenture plc	ACN	No	NYSE	4:00	Susquehanna Securities	1
ACRX	AcelRx Pharmaceuticals, Inc.	ACRX	No	NASDAQ	4:00	Susquehanna Securities	1
ADBE	Adobe Inc.	ADBE	Yes	NASDAQ	4:00	Susquehanna Securities	1
ADM	Archer-Daniels-Midland Company	ADM	Yes	NYSE	4:00	Morgan Stanley	1
ADP	Automatic Data Processing, Inc.	ADP	No	NASDAQ	4:00	Wolverine Trading, LLC	1
AEM	Agnico Eagle Mines Limited	AEM	Yes	NYSE	4:00	IMC Financial Markets	1
AFL	Aflac Incorporated	AFL	Yes	NYSE	4:00	Wolverine Trading, LLC	1
AG	First Majestic Silver Corp.	AG	No	NYSE	4:00	IMC Financial Markets	1
AGN	Allergan plc	AGN	Yes	NYSE	4:00	Citadel Securities, LLC	1
AIG	American International Group, Inc.	AIG	Yes	NYSE	4:00	Morgan Stanley	1
AKAM	Akamai Technologies, Inc.	AKAM	Yes	NASDAQ	4:00	Citadel Securities, LLC	1
AKRX	Akorn, Inc.	AKRX	No	NASDAQ	4:00	Susquehanna Securities	1



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AKS	AK Steel Holding Corporation	AKS	Yes	NYSE	4:00	Morgan Stanley	1
ALB	Albemarle Corporation	ALB	No	NYSE	4:00	Citadel Securities, LLC	1
ALL	The Allstate Corporation	ALL	Yes	NYSE	4:00	Wolverine Trading, LLC	1
ALXN	Alexion Pharmaceuticals, Inc.	ALXN	No	NASDAQ	4:00	Susquehanna Securities	1
AMAT	Applied Materials, Inc.	AMAT	Yes	NASDAQ	4:00	Morgan Stanley	1
AMBA	Ambarella, Inc.	AMBA	No	NASDAQ	4:00	Citadel Securities, LLC	1
AMC	AMC Entertainment Holdings, Inc.	AMC	No	NYSE	4:00	Morgan Stanley	1
AMGN	Amgen Inc.	AMGN	Yes	NASDAQ	4:00	Morgan Stanley	1
AMJ	JPMorgan Alerian MLP ETN	AMJ	No	NYSE Arca	4:15	Citadel Securities, LLC	1
AMLP	Alerian MLP ETF	AMLP	No	NYSE Arca	4:00	Morgan Stanley	1
AMRN	Amarin Corporation plc	AMRN	Yes	NASDAQ	4:00	Citadel Securities, LLC	1
AMT	American Tower Corporation	AMT	No	NYSE	4:00	Susquehanna Securities	1
AMTD	Ameritrade Holding Corp	AMTD	No	NASDAQ	4:00	Wolverine Trading, LLC	1
ANET	Arista Networks, Inc.	ANET	No	NYSE	4:00	Wolverine Trading, LLC	1
ANF	Abercrombie & Fitch Co.	ANF	Yes	NYSE	4:00	Citadel Securities, LLC	1
APA	Apache Corporation	APA	Yes	NYSE	4:00	Morgan Stanley	1
APC	Anadarko Petroleum Corporation	APC	Yes	NYSE	4:00	Wolverine Trading, LLC	1
AR	Antero Resources Corporation	AR	No	NYSE	4:00	Morgan Stanley	1
ARCC	Ares Capital Corporation	ARCC	No	NASDAQ	4:00	Morgan Stanley	1
ARNC	Arconic Inc.	ARNC	Yes	NYSE	4:00	Susquehanna Securities	1
ASHR	Xtrackers Harvest CSI 300 China A ETF	ASHR	Yes	NYSE Arca	4:00	Morgan Stanley	1
ATVI	Activision Blizzard, Inc.	ATVI	Yes	NASDAQ	4:00	IMC Financial Markets	1
AU	AngloGold Ashanti Limited	AU	No	NYSE	4:00	Susquehanna Securities	1
AUY	Yamana Gold, Inc.	AUY	Yes	NYSE	4:00	Morgan Stanley	1



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AVEO	Aveo Pharmaceuticals, Inc.	AVEO	No	NASDAQ	4:00	Morgan Stanley	1
AVGO	Broadcom Inc.	AVGO	No	NASDAQ	4:00	Wolverine Trading, LLC	1
AXL	American Axle & Manufacturing Holdings, Inc.	AXL	No	NYSE	4:00	Morgan Stanley	1
AXP	American Express Company	AXP	Yes	NYSE	4:00	Wolverine Trading, LLC	1
AXTA	Axalta Coating Systems Ltd.	AXTA	No	NYSE	4:00	IMC Financial Markets	1
AZN	AstraZeneca PLC	AZN	No	NYSE	4:00	Morgan Stanley	1
AZO	Autozone, Inc.	AZO	No	NYSE	4:00	Wolverine Trading, LLC	1
BA	The Boeing Company	BA	Yes	NYSE	4:00	IMC Financial Markets	2
BAX	Baxter International Inc.	BAX	Yes	NYSE	4:00	IMC Financial Markets	2
BBBY	Bed Bath & Beyond Inc.	BBBY	Yes	NASDAQ	4:00	Citadel Securities, LLC	2
BBD	Banco Bradesco S.A.	BBD	Yes	NYSE	4:00	Morgan Stanley	2
BBT	BB&T Corporation	BBT	Yes	NYSE	4:00	Citadel Securities, LLC	2
BBY	Best Buy Co., Inc.	BBY	Yes	NYSE	4:00	Morgan Stanley	2
BCS	Barclays PLC	BCS	No	NYSE	4:00	Morgan Stanley	2
BG	Bunge Limited	BG	No	NYSE	4:00	Wolverine Trading, LLC	2
BHC	Bausch Health Companies Inc.	BHC	Yes	NYSE	4:00	Two Sigma Securities, LLC	2
BHGE	Baker Hughes, a GE company	BHGE	No	NYSE	4:00	Morgan Stanley	2
BHP	BHP Billiton Limited	BHP	Yes	NYSE	4:00	Susquehanna Securities	2
BIDU	Baidu, Inc.	BIDU	Yes	NASDAQ	4:00	Susquehanna Securities	2
BIIB	Biogen Inc.	BIIB	No	NASDAQ	4:00	Morgan Stanley	2
BK	The Bank Of New York Mellon Corporation	BK	Yes	NYSE	4:00	Wolverine Trading, LLC	2
BKLN	Invesco Senior Loan ETF	BKLN	No	NYSE Arca	4:00	Citadel Securities, LLC	2
BKNG	Booking Holdings Inc.	BKNG	No	NASDAQ	4:00	Wolverine Trading, LLC	2



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BKS	Barnes & Noble, Inc.	BKS	No	NYSE	4:00	Susquehanna Securities	2
BMY	Bristol-Myers Squibb Company	BMY	Yes	NYSE	4:00	Citadel Securities, LLC	2
BOX	Box, Inc.	BOX	No	NYSE	4:00	Morgan Stanley	2
BP	BP p.l.c.	BP	Yes	NYSE	4:00	Morgan Stanley	2
BRKB	Berkshire Hathaway Inc.	BRKB	Yes	NYSE	4:00	Citadel Securities, LLC	2
BRZU	Direxion Daily MSCI Brazil Bull 3X ETF	BRZU	No	NYSE Arca	4:00	Susquehanna Securities	2
BX	The Blackstone Group L.P.	BX	Yes	NYSE	4:00	Morgan Stanley	2
BYD	Boyd Gaming Corp.	BYD	No	NYSE	4:00	Morgan Stanley	2
BZUN	Baozun Inc.	BZUN	No	NASDAQ	4:00	Morgan Stanley	2
C	Citigroup, Inc.	C	Yes	NYSE	4:00	IMC Financial Markets	2
CAG	Conagra Brands, Inc.	CAG	No	NYSE	4:00	Citadel Securities, LLC	2
CAH	Cardinal Health Inc	CAH	No	NYSE	4:00	IMC Financial Markets	2
CAR	Avis Budget Group Inc	CAR	No	NASDAQ	4:00	IMC Financial Markets	2
CAT	Caterpillar Inc.	CAT	Yes	NYSE	4:00	Wolverine Trading, LLC	2
CBL	CBL & Associates Properties, Inc.	CBL	No	NYSE	4:00	Citadel Securities, LLC	2
CBS	CBS Corporation	CBS	Yes	NYSE	4:00	Citadel Securities, LLC	2
CC	The Chemours Company	CC	No	NYSE	4:00	Wolverine Trading, LLC	2
CCJ	Cameco Corporation	CCJ	No	NYSE	4:00	Citadel Securities, LLC	2
CCK	Crown Holdings Inc.	CCK	No	NYSE	4:00	Morgan Stanley	2
CCL	Carnival Corporation	CCL	No	NYSE	4:00	IMC Financial Markets	2
CELG	Celgene Corporation	CELG	Yes	NASDAQ	4:00	Susquehanna Securities	2
CENX	Century Aluminum Company	CENX	Yes	NASDAQ	4:00	Morgan Stanley	2
CF	CF Industries Holdings, Inc.	CF	Yes	NYSE	4:00	Wolverine Trading, LLC	2
CGC	Canopy Growth Corporation	CGC	Yes	NYSE	4:00	Two Sigma Securities, LLC	2



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CHK	Chesapeake Energy Corporation	CHK	Yes	NYSE	4:00	IMC Financial Markets	2
CIEN	Ciena Corporation	CIEN	Yes	NYSE	4:00	IMC Financial Markets	2
CL	Colgate-Palmolive Company	CL	Yes	NYSE	4:00	Wolverine Trading, LLC	2
CLDR	Cloudera, Inc.	CLDR	No	NYSE	4:00	Morgan Stanley	2
CLF	Cliffs Natural Resources Inc.	CLF	Yes	NYSE	4:00	Morgan Stanley	2
CLR	Continental Resources, Inc.	CLR	No	NYSE	4:00	Wolverine Trading, LLC	2
CLVS	Clovis Oncology, Inc.	CLVS	No	NASDAQ	4:00	Citadel Securities, LLC	2
CLX	The Clorox Company	CLX	No	NYSE	4:00	Wolverine Trading, LLC	2
CMCSA	Comcast Corporation	CMCSA	Yes	NASDAQ	4:00	Morgan Stanley	2
CME	CME Group Inc.	CME	No	NASDAQ	4:00	Wolverine Trading, LLC	2
CMI	Cummins Inc.	CMI	No	NYSE	4:00	Citadel Securities, LLC	2
COF	Capital One Financial Corporation	COF	Yes	NYSE	4:00	Wolverine Trading, LLC	2
COG	Cabot Oil & Gas Corporation	COG	No	NYSE	4:00	Citadel Securities, LLC	2
COP	ConocoPhillips	COP	Yes	NYSE	4:00	Susquehanna Securities	2
COST	Costco Wholesale Corporation	COST	Yes	NASDAQ	4:00	IMC Financial Markets	2
COTY	Coty Inc.	COTY	Yes	NYSE	4:00	Two Sigma Securities, LLC	2
CPB	Campbell Soup Company	CPB	No	NYSE	4:00	Susquehanna Securities	2
CPE	Callon Petroleum Company	CPE	No	NYSE	4:00	Citadel Securities, LLC	2
CPRI	Capri Holdings Limited	CPRI	No	NYSE	4:00	Susquehanna Securities	2
CREE	Cree, Inc.	CREE	Yes	NASDAQ	4:00	Citadel Securities, LLC	2
CRM	salesforce.com, inc.	CRM	Yes	NYSE	4:00	Wolverine Trading, LLC	2
CRON	Cronos Group Inc.	CRON	Yes	NASDAQ	4:00	Two Sigma Securities, LLC	2
CS	Credit Suisse Group AG	CS	No	NYSE	4:00	Citadel Securities, LLC	2
CSCO	Cisco Systems, Inc.	CSCO	Yes	NASDAQ	4:00	Morgan Stanley	2



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CSIQ	Canadian Solar Inc.	CSIQ	No	NASDAQ	4:00	IMC Financial Markets	2
CSX	CSX Corporation	CSX	Yes	NASDAQ	4:00	Susquehanna Securities	2
CTRP	Ctrip.com International, Ltd.	CTRP	No	NASDAQ	4:00	Morgan Stanley	2
CTSH	Cognizant Technology Solutions Corporation	CTSH	No	NASDAQ	4:00	Morgan Stanley	2
CVNA	Carvana Co.	CVNA	No	NYSE	4:00	Citadel Securities, LLC	2
CVS	CVS Health Corporation	CVS	Yes	NYSE	4:00	IMC Financial Markets	2
CVX	Chevron Corporation	CVX	Yes	NYSE	4:00	Wolverine Trading, LLC	2
CWH	Camping World Holdings, Inc.	CWH	No	NYSE	4:00	Citadel Securities, LLC	2
CX	Cemex, S.A.B. de C.V.	CX	Yes	NYSE	4:00	Susquehanna Securities	2
CY	Cypress Semiconductor Corporation	CY	No	NASDAQ	4:00	Morgan Stanley	2
D	Dominion Resources	D	No	NYSE	4:00	Susquehanna Securities	3
DAL	Delta Air Lines Inc.	DAL	Yes	NYSE	4:00	Wolverine Trading, LLC	3
DATA	Tableau Software Inc.	DATA	No	NYSE	4:00	Wolverine Trading, LLC	3
DB	Deutsche Bank Aktiengesellschaft	DB	Yes	NYSE	4:00	IMC Financial Markets	3
DBX	Dropbox, Inc.	DBX	No	NASDAQ	4:00	Citadel Securities, LLC	3
DDD	3D Systems Corporation	DDD	Yes	NYSE	4:00	IMC Financial Markets	3
DELL	Dell Technologies, Inc.	DELL	No	NYSE	4:00	Two Sigma Securities, LLC	3
DG	Dollar General Corporation	DG	No	NYSE	4:00	IMC Financial Markets	3
DHI	D.R. Horton, Inc.	DHI	Yes	NYSE	4:00	Morgan Stanley	3
DIA	SPDR Dow Jones Industrial Average ETF	DIA	Yes	NYSE Arca	4:15	IMC Financial Markets	3
DIS	The Walt Disney Company	DIS	Yes	NYSE	4:00	Wolverine Trading, LLC	3
DISCA	Discovery, Inc.	DISCA	No	NASDAQ	4:00	Citadel Securities, LLC	3
DKS	Dick's Sporting Goods Inc.	DKS	No	NYSE	4:00	IMC Financial Markets	3



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DLTR	Dollar Tree, Inc.	DLTR	No	NASDAQ	4:00	Wolverine Trading, LLC	3
DNR	Denbury Resources Inc.	DNR	No	NYSE	4:00	Morgan Stanley	3
DOCU	DocuSign Inc.	DOCU	No	NASDAQ	4:00	Susquehanna Securities	3
DUK	Duke Energy Corporation	DUK	No	NYSE	4:00	IMC Financial Markets	3
DUST	Direxion Daily Gold Miners Bear 3X ETF	DUST	No	NYSE Arca	4:00	Morgan Stanley	3
DVA	DaVita Inc.	DVA	No	NYSE	4:00	Wolverine Trading, LLC	3
DVN	Devon Energy Corporation	DVN	Yes	NYSE	4:00	Wolverine Trading, LLC	3
DWDP	DowDuPont Inc.	DWDP	Yes	NYSE	4:00	IMC Financial Markets	3
DXC	DXC Technology Company	DXC	No	NYSE	4:00	Wolverine Trading, LLC	3
DXJ	WisdomTree Japan Hedged Equity ETF	DXJ	Yes	NYSE Arca	4:00	Morgan Stanley	3
EA	Electronic Arts Inc.	EA	Yes	NASDAQ	4:00	Wolverine Trading, LLC	3
ECA	Encana Corporation	ECA	No	NYSE	4:00	Citadel Securities, LLC	3
EDU	New Oriental Education & Technology Group	EDU	No	NYSE	4:00	Morgan Stanley	3
EFA	iShares MSCI EAFE ETF	EFA	Yes	NYSE Arca	4:15	Morgan Stanley	3
EMB	iShares JP Morgan USD Em Mkts Bd ETF	EMB	No	NASDAQ	4:00	Wolverine Trading, LLC	3
EMR	Emerson Electric Company	EMR	No	NYSE	4:00	IMC Financial Markets	3
ENDP	Endo International plc	ENDP	No	NASDAQ	4:00	IMC Financial Markets	3
EOG	EOG Resources, Inc.	EOG	Yes	NYSE	4:00	Wolverine Trading, LLC	3
EPD	Enterprise Products Partners L.P.	EPD	No	NYSE	4:00	Morgan Stanley	3
EQT	EQT Corporation	EQT	No	NYSE	4:00	Citadel Securities, LLC	3
ERIC	Telefonaktiebolaget LM Ericsson	ERIC	No	NASDAQ	4:00	Morgan Stanley	3



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ERX	Direxion Daily Energy Bull 3X ETF	ERX	No	NYSE Arca	4:00	Susquehanna Securities	3
ESPR	Esperion Therapeutics, Inc.	ESPR	No	NASDAQ	4:00	Citadel Securities, LLC	3
ET	Energy Transfer LP	ET	Yes	NYSE	4:00	Two Sigma Securities, LLC	3
ETN	Eaton Corporation plc	ETN	No	NYSE	4:00	Susquehanna Securities	3
EW	Edwards Lifesciences Corp.	EW	No	NYSE	4:00	Morgan Stanley	3
EWZ	iShares MSCI Mexico Capped ETF	EWZ	Yes	NYSE Arca	4:00	Morgan Stanley	3
EWZ	iShares MSCI Brazil Capped ETF	EWZ	Yes	NYSE Arca	4:00	Morgan Stanley	3
EXAS	Exact Sciences Corp.	EXAS	No	NASDAQ	4:00	Two Sigma Securities, LLC	3
EXC	Exelon Corporation	EXC	No	NYSE	4:00	Morgan Stanley	3
EXEL	Exelixis, Inc.	EXEL	No	NASDAQ	4:00	Two Sigma Securities, LLC	3
EXPE	Expedia Inc.	EXPE	No	NASDAQ	4:00	Wolverine Trading, LLC	3
FANG	Diamondback Energy, Inc.	FANG	No	NASDAQ	4:00	IMC Financial Markets	3
FAS	Direxion Daily Financial Bull 3X ETF	FAS	Yes	NYSE Arca	4:00	IMC Financial Markets	3
FAST	Fastenal Company	FAST	No	NASDAQ	4:00	Morgan Stanley	3
FAZ	Direxion Daily Financial Bear 3X ETF	FAZ	Yes	NYSE Arca	4:00	Susquehanna Securities	3
FCAU	Fiat Chrysler Automobiles N.V.	FCAU	No	NYSE	4:00	Citadel Securities, LLC	3
FCX	Freeport-McMoRan Inc.	FCX	Yes	NYSE	4:00	Morgan Stanley	3
FDX	FedEx Corporation	FDX	Yes	NYSE	4:00	Wolverine Trading, LLC	3
FEYE	FireEye, Inc.	FEYE	Yes	NASDAQ	4:00	Morgan Stanley	3
FIT	Fitbit, Inc.	FIT	Yes	NYSE	4:00	Morgan Stanley	3
FITB	Fifth Third Bancorp	FITB	Yes	NASDAQ	4:00	Morgan Stanley	3
FIVE	Five Below Inc.	FIVE	No	NASDAQ	4:00	IMC Financial Markets	3
FL	Foot Locker, Inc.	FL	No	NYSE	4:00	Susquehanna Securities	3





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FLEX	Flex Ltd.	FLEX	Yes	NASDAQ	4:00	Morgan Stanley	3
FNSR	Finisar Corporation	FNSR	No	NASDAQ	4:00	Susquehanna Securities	3
FSLR	First Solar, Inc.	FSLR	Yes	NASDAQ	4:00	Two Sigma Securities, LLC	3
FTNT	Fortinet Inc.	FTNT	No	NASDAQ	4:00	Morgan Stanley	3
FTR	Frontier Communications Corporation	FTR	No	NASDAQ	4:00	Morgan Stanley	3
FTV	Fortive Corporation	FTV	Yes	NYSE	4:00	Wolverine Trading, LLC	3
FXE	Invesco CurrencyShares Euro Currency	FXE	Yes	NYSE Arca	4:00	IMC Financial Markets	3
FXI	iShares China Large-Cap ETF	FXI	Yes	NYSE Arca	4:00	Morgan Stanley	3
GBT	Global Blood Therapeutics, Inc.	GBT	No	NASDAQ	4:00	Citadel Securities, LLC	4
GDX	VanEck Vectors Gold Miners ETF	GDX	Yes	NYSE Arca	4:00	Morgan Stanley	4
GERN	Geron Corporation	GERN	No	NASDAQ	4:00	Morgan Stanley	4
GG	Goldcorp Inc.	GG	Yes	NYSE	4:00	IMC Financial Markets	4
GGB	Gerdau S.A.	GGB	No	NYSE	4:00	Citadel Securities, LLC	4
GILD	Gilead Sciences Inc.	GILD	Yes	NASDAQ	4:00	IMC Financial Markets	4
GIS	General Mills, Inc.	GIS	Yes	NYSE	4:00	IMC Financial Markets	4
GLNG	Golar LNG Limited	GLNG	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GLUU	Glu Mobile Inc	GLUU	No	NASDAQ	4:00	Susquehanna Securities	4
GLW	Corning Incorporated	GLW	Yes	NYSE	4:00	Morgan Stanley	4
GM	General Motors Company	GM	Yes	NYSE	4:00	Wolverine Trading, LLC	4
GME	Gamestop Corporation	GME	Yes	NYSE	4:00	Susquehanna Securities	4
GOGO	Gogo, Inc.	GOGO	No	NASDAQ	4:00	IMC Financial Markets	4
GOOG	Alphabet Inc.	GOOG	No	NASDAQ	4:00	Wolverine Trading, LLC	4
GOOS	Canada Goose Holdings Inc.	GOOS	No	NYSE	4:00	Susquehanna Securities	4



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GPOR	Gulfport Energy Corporation	GPOR	No	NASDAQ	4:00	IMC Financial Markets	4
GPS	The Gap, Inc.	GPS	Yes	NYSE	4:00	Citadel Securities, LLC	4
GRPN	Groupon, Inc.	GRPN	Yes	NASDAQ	4:00	Two Sigma Securities, LLC	4
GRUB	Grubhub Inc.	GRUB	No	NYSE	4:00	Susquehanna Securities	4
GS	The Goldman Sachs Group, Inc.	GS	Yes	NYSE	4:00	IMC Financial Markets	4
GSK	GlaxoSmithKline plc	GSK	No	NYSE	4:00	Citadel Securities, LLC	4
GT	The Goodyear Tire & Rubber Company	GT	No	NASDAQ	4:00	Citadel Securities, LLC	4
HAL	Halliburton Company	HAL	Yes	NYSE	4:00	Morgan Stanley	4
HAS	Hasbro Inc.	HAS	No	NASDAQ	4:00	Wolverine Trading, LLC	4
HBI	Hanesbrands Inc.	HBI	No	NYSE	4:00	IMC Financial Markets	4
HD	The Home Depot, Inc.	HD	Yes	NYSE	4:00	Citadel Securities, LLC	4
HEAR	Turtle Beach Corporation	HEAR	No	NASDAQ	4:00	Susquehanna Securities	4
HES	Hess Corporation	HES	Yes	NYSE	4:00	Susquehanna Securities	4
HIMX	Himax Technologies, Inc.	HIMX	No	NASDAQ	4:00	Morgan Stanley	4
HLF	Herbalife Nutrition Ltd.	HLF	Yes	NYSE	4:00	Susquehanna Securities	4
HLT	Hilton Worldwide Holdings Inc.	HLT	No	NYSE	4:00	Susquehanna Securities	4
HOG	Harley-Davidson, Inc.	HOG	Yes	NYSE	4:00	Susquehanna Securities	4
HON	Honeywell International Inc.	HON	Yes	NYSE	4:00	Wolverine Trading, LLC	4
HPE	Hewlett Packard Enterprise Company	HPE	Yes	NYSE	4:00	Two Sigma Securities, LLC	4
HPQ	HP Inc.	HPQ	Yes	NYSE	4:00	Morgan Stanley	4
HSBC	HSBC Holdings Plc	HSBC	Yes	NYSE	4:00	Wolverine Trading, LLC	4
HTZ	Hertz Global Holdings, Inc	HTZ	No	NYSE	4:00	Susquehanna Securities	4
HUN	Huntsman Corporation	HUN	No	NYSE	4:00	Wolverine Trading, LLC	4



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HUYA	HUYA Inc.	HUYA	No	NYSE	4:00	Citadel Securities, LLC	4
I	Intelsat S.A.	I	No	NYSE	4:00	Citadel Securities, LLC	5
IBB	iShares Nasdaq Biotechnology ETF	IBB	No	NASDAQ	4:00	IMC Financial Markets	5
IBN	ICICI Bank Limited	IBN	Yes	NYSE	4:00	Citadel Securities, LLC	5
ILMN	illumina Inc.	ILMN	No	NASDAQ	4:00	IMC Financial Markets	5
IMMU	Immunomedics, Inc.	IMMU	No	NASDAQ	4:00	Citadel Securities, LLC	5
INFN	Infinera Corporation	INFN	No	NASDAQ	4:00	Morgan Stanley	5
IP	International Paper Company	IP	Yes	NYSE	4:00	Susquehanna Securities	5
IQ	iQIYI, Inc.	IQ	Yes	NASDAQ	4:00	Two Sigma Securities, LLC	5
IRBT	iRobot Corporation	IRBT	No	NASDAQ	4:00	Wolverine Trading, LLC	5
ISRG	Intuitive Surgical, Inc.	ISRG	No	NASDAQ	4:00	Citadel Securities, LLC	5
ITB	iShares US Home Construction ETF	ITB	No	BATS	4:00	Two Sigma Securities, LLC	5
ITUB	Itaú Unibanco Holding S.A.	ITUB	No	NYSE	4:00	Morgan Stanley	5
IVZ	Invesco Ltd.	IVZ	No	NYSE	4:00	Morgan Stanley	5
IWO	iShares Russell 2000 Growth ETF	IWO	No	NYSE Arca	4:15	Wolverine Trading, LLC	5
IYR	iShares US Real Estate ETF	IYR	Yes	NYSE Arca	4:00	Morgan Stanley	5
JBLU	JetBlue Airways Corporation	JBLU	No	NASDAQ	4:00	Morgan Stanley	5
JCI	Johnson Controls International plc	JCI	Yes	NYSE	4:00	Morgan Stanley	5
JD	JD.Com, Inc.	JD	Yes	NASDAQ	4:00	Morgan Stanley	5
JNJ	Johnson & Johnson	JNJ	Yes	NYSE	4:00	IMC Financial Markets	5
JNK	SPDR Blmbg Barclays High Yield Bd ETF	JNK	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
JNUG	Direxion Daily Jr Gld Mnrs Bull 3X ETF	JNUG	Yes	NYSE Arca	4:00	IMC Financial Markets	5



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JPM	JPMorgan Chase & Co.	JPM	Yes	NYSE	4:00	Morgan Stanley	5
K	Kellogg Company	K	No	NYSE	4:00	Susquehanna Securities	5
KBE	SPDR S&P Bank ETF	KBE	No	NYSE Arca	4:15	Citadel Securities, LLC	5
KEM	Kemet Corporation	KEM	No	NYSE	4:00	Morgan Stanley	5
KEY	KeyCorp	KEY	Yes	NYSE	4:00	Wolverine Trading, LLC	5
KGC	Kinross Gold Corporation	KGC	Yes	NYSE	4:00	Morgan Stanley	5
KHC	The Kraft Heinz Company	KHC	No	NASDAQ	4:00	Citadel Securities, LLC	5
KKR	KKR & Co. Inc.	KKR	No	NYSE	4:00	IMC Financial Markets	5
KMB	Kimberly-Clark Corporation	KMB	No	NYSE	4:00	Morgan Stanley	5
KMX	CarMax Inc.	KMX	No	NYSE	4:00	Morgan Stanley	5
KNX	Knight-Swift Transportation Holdings Inc.	KNX	No	NYSE	4:00	Morgan Stanley	5
KR	The Kroger Company	KR	Yes	NYSE	4:00	Susquehanna Securities	5
KRE	SPDR S&P Regional Banking ETF	KRE	Yes	NYSE Arca	4:15	Morgan Stanley	5
KSS	Kohl's Corporation	KSS	No	NYSE	4:00	Morgan Stanley	5
KWEB	KraneShares CSI China Internet ETF	KWEB	No	NYSE Arca	4:00	Morgan Stanley	5
LABU	Direxion Daily S&P Biotech Bull 3X ETF	LABU	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
LB	L Brands, Inc.	LB	No	NYSE	4:00	Citadel Securities, LLC	5
LITE	Lumentum Holdings Inc.	LITE	No	NASDAQ	4:00	Morgan Stanley	5
LL	Lumber Liquidators Holdings Inc	LL	No	NYSE	4:00	Citadel Securities, LLC	5
LLY	Eli Lilly and Company	LLY	Yes	NYSE	4:00	Citadel Securities, LLC	5
LMT	Lockheed Martin Corporation	LMT	No	NYSE	4:00	Wolverine Trading, LLC	5
LNG	Cheniere Energy, Inc.	LNG	Yes	AMEX	4:00	Susquehanna Securities	5



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
LOW	Lowe's Companies Inc.	LOW	Yes	NYSE	4:00	Morgan Stanley	5
LQD	iShares iBoxx \$ Invmt Grade Corp Bd ETF	LQD	No	NYSE Arca	4:00	Wolverine Trading, LLC	5
LRCX	Lam Research Corporation	LRCX	Yes	NASDAQ	4:00	Citadel Securities, LLC	5
LULU	Lululemon Athletica Inc.	LULU	Yes	NASDAQ	4:00	IMC Financial Markets	5
LUV	Southwest Airlines Company	LUV	No	NYSE	4:00	Citadel Securities, LLC	5
LVS	Las Vegas Sands Corporation	LVS	Yes	NYSE	4:00	Citadel Securities, LLC	5
LYB	LyondellBasell Industries N.V.	LYB	No	NYSE	4:00	Susquehanna Securities	5
MA	Mastercard Incorporated	MA	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MAR	Marriott International, Inc.	MAR	No	NASDAQ	4:00	IMC Financial Markets	6
MCD	McDonald's Corporation	MCD	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MDLZ	Mondelez International, Inc.	MDLZ	Yes	NASDAQ	4:00	Citadel Securities, LLC	6
MDR	McDermott International, Inc.	MDR	No	NYSE	4:00	Morgan Stanley	6
MDT	Medtronic plc	MDT	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MELI	MercadoLibre, Inc.	MELI	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MET	MetLife, Inc.	MET	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MJ	ETFMG Alternative Harvest ETF	MJ	No	NYSE Arca	4:00	Citadel Securities, LLC	6
MLCO	Melco Resorts & Entertainment Limited	MLCO	No	NASDAQ	4:00	Morgan Stanley	6
MMM	3M Company	MMM	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MNK	Mallinckrodt plc	MNK	No	NYSE	4:00	Morgan Stanley	6
MNKD	MannKind Corporation	MNKD	Yes	NASDAQ	4:00	Morgan Stanley	6
MNST	Monster Beverage Corporation	MNST	No	NASDAQ	4:00	Susquehanna Securities	6
MO	Altria Group Inc.	MO	Yes	NYSE	4:00	Wolverine Trading, LLC	6
MOMO	Momo Inc.	MOMO	No	NASDAQ	4:00	Citadel Securities, LLC	6
MPC	Marathon Petroleum	MPC	Yes	NYSE	4:00	Morgan Stanley	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
	Corporation						
MRK	Merck & Company Inc.	MRK	Yes	NYSE	4:00	Susquehanna Securities	6
MRVL	Marvell Technology Group Ltd.	MRVL	Yes	NASDAQ	4:00	Morgan Stanley	6
MS	Morgan Stanley	MS	Yes	NYSE	4:00	Susquehanna Securities	6
MSFT	Microsoft Corporation	MSFT	Yes	NASDAQ	4:00	Susquehanna Securities	6
MT	ArcelorMittal	MT	Yes	NYSE	4:00	Morgan Stanley	6
MTCH	Match Group, Inc.	MTCH	No	NASDAQ	4:00	Wolverine Trading, LLC	6
MYL	Mylan, Inc.	MYL	Yes	NASDAQ	4:00	IMC Financial Markets	6
NBL	Noble Energy Inc	NBL	No	NYSE	4:00	Morgan Stanley	6
NBR	Nabors Industries Ltd.	NBR	Yes	NYSE	4:00	Citadel Securities, LLC	6
NE	Noble Corporation Plc	NE	Yes	NYSE	4:00	Morgan Stanley	6
NEM	Newmont Mining Corporation	NEM	Yes	NYSE	4:00	Morgan Stanley	6
NEPT	Neptune Wellness Solutions Inc.	NEPT	No	NASDAQ	4:00	Morgan Stanley	6
NKE	NIKE Inc.	NKE	Yes	NYSE	4:00	IMC Financial Markets	6
NKTR	Nektar Therapeutics	NKTR	No	NASDAQ	4:00	Susquehanna Securities	6
NLSN	Nielsen Holdings plc	NLSN	No	NYSE	4:00	IMC Financial Markets	6
NLY	Annaly Capital Management, Inc.	NLY	Yes	NYSE	4:00	Susquehanna Securities	6
NOC	Northrop Grumman Corporation	NOC	No	NYSE	4:00	Susquehanna Securities	6
NOG	Northern Oil And Gas Inc	NOG	No	AMEX	4:00	Citadel Securities, LLC	6
NOV	National Oilwell Varco, Inc.	NOV	Yes	NYSE	4:00	IMC Financial Markets	6
NOW	ServiceNow Inc.	NOW	No	NYSE	4:00	Two Sigma Securities, LLC	6
NRG	NRG Energy, Inc.	NRG	No	NYSE	4:00	Morgan Stanley	6
NSC	Norfolk Southern Corporation	NSC	No	NYSE	4:00	Susquehanna Securities	6



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
NTAP	NetApp, Inc.	NTAP	Yes	NASDAQ	4:00	Citadel Securities, LLC	6
NTES	NetEase, Inc.	NTES	No	NASDAQ	4:00	Morgan Stanley	6
NUGT	Direxion Daily Gold Miners Bull 3X ETF	NUGT	Yes	NYSE Arca	4:00	IMC Financial Markets	6
NVAX	Novavax, Inc	NVAX	No	NASDAQ	4:00	Citadel Securities, LLC	6
NVDA	NVIDIA Corporation	NVDA	Yes	NASDAQ	4:00	Susquehanna Securities	6
NVS	Novartis AG	NVS	No	NYSE	4:00	Morgan Stanley	6
NWL	Newell Brands Inc.	NWL	No	NASDAQ	4:00	Citadel Securities, LLC	6
NWSA	News Corporation	NWSA	No	NASDAQ	4:00	Morgan Stanley	6
NXPI	NXP Semiconductors N.V.	NXPI	Yes	NASDAQ	4:00	Wolverine Trading, LLC	6
OAS	Oasis Petroleum Inc.	OAS	No	NYSE	4:00	IMC Financial Markets	7
OCN	Ocwen Financial Corporation	OCN	No	NYSE	4:00	IMC Financial Markets	7
OIH	VanEck Vectors Oil Services ETF	OIH	Yes	NYSE Arca	4:00	Morgan Stanley	7
OKTA	Okta, Inc.	OKTA	No	NASDAQ	4:00	Citadel Securities, LLC	7
OLED	Universal Display Corporation	OLED	No	NASDAQ	4:00	Morgan Stanley	7
OMC	Omnicom Group Inc.	OMC	No	NYSE	4:00	Morgan Stanley	7
ON	ON Semiconductor Corporation	ON	No	NASDAQ	4:00	Susquehanna Securities	7
OPK	OPKO Health, Inc.	OPK	No	NASDAQ	4:00	IMC Financial Markets	7
ORCL	Oracle Corporation	ORCL	Yes	NYSE	4:00	Morgan Stanley	7
OSTK	Overstock.Com, Inc.	OSTK	No	NASDAQ	4:00	Two Sigma Securities, LLC	7
OXY	Occidental Petroleum Corporation	OXY	Yes	NYSE	4:00	Wolverine Trading, LLC	7
PACB	Pacific Biosciences Of California Inc	PACB	No	NASDAQ	4:00	Susquehanna Securities	7
PAGS	PagSeguro Digital Ltd.	PAGS	No	NYSE	4:00	Citadel Securities, LLC	7
PAYX	Paychex, Inc	PAYX	No	NASDAQ	4:00	Wolverine Trading, LLC	7



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
PENN	Penn National Gaming Inc	PENN	No	NASDAQ	4:00	Morgan Stanley	7
PEP	Pepsico, Inc.	PEP	Yes	NASDAQ	4:00	Morgan Stanley	7
PFE	Pfizer Inc.	PFE	Yes	NYSE	4:00	IMC Financial Markets	7
PG	The Procter & Gamble Company	PG	Yes	NYSE	4:00	Susquehanna Securities	7
PGR	The Progressive Corporation	PGR	No	NYSE	4:00	Citadel Securities, LLC	7
PHM	PulteGroup, Inc.	PHM	Yes	NYSE	4:00	IMC Financial Markets	7
PM	Philip Morris International, Inc.	PM	Yes	NYSE	4:00	Susquehanna Securities	7
PNC	The PNC Financial Services Group Inc.	PNC	Yes	NYSE	4:00	Wolverine Trading, LLC	7
PPL	PPL Corporation	PPL	No	NYSE	4:00	Susquehanna Securities	7
PRU	Prudential Financial, Inc.	PRU	Yes	NYSE	4:00	Wolverine Trading, LLC	7
PSTG	Pure Storage, Inc.	PSTG	No	NYSE	4:00	Morgan Stanley	7
PSX	Phillips 66	PSX	No	NYSE	4:00	Susquehanna Securities	7
PVG	Pretium Resources, Inc.	PVG	No	NYSE	4:00	Susquehanna Securities	7
PVTL	Pivotal Software, Inc.	PVTL	No	NYSE	4:00	Susquehanna Securities	7
PXD	Pioneer Natural Resources Company	PXD	No	NYSE	4:00	Morgan Stanley	7
PYPL	PayPal Holdings, Inc.	PYPL	Yes	NASDAQ	4:00	Susquehanna Securities	7
QCOM	QUALCOMM Incorporated	QCOM	Yes	NASDAQ	4:00	Susquehanna Securities	7
QEP	QEP Resources Inc.	QEP	No	NYSE	4:00	Susquehanna Securities	7
RAD	Rite Aid Corporation	RAD	Yes	NYSE	4:00	Citadel Securities, LLC	7
RAMP	LiveRamp Holdings Inc	RAMP	No	NYSE	4:00	Citadel Securities, LLC	7
RCL	Royal Caribbean Cruises Ltd.	RCL	Yes	NYSE	4:00	Susquehanna Securities	7
RDSA	Royal Dutch Shell Plc	RDSA	No	NYSE	4:00	Citadel Securities, LLC	7
REGN	Regeneron Pharmaceuticals,	REGN	No	NASDAQ	4:00	Susquehanna Securities	7





Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
	Inc.						
RH	RH	RH	No	NYSE	4:00	Citadel Securities, LLC	7
RIG	Transocean Ltd.	RIG	Yes	NYSE	4:00	IMC Financial Markets	7
RIO	Rio Tinto Group	RIO	No	NYSE	4:00	Morgan Stanley	7
RIOT	Riot Blockchain, Inc.	RIOT	Yes	NASDAQ	4:00	Morgan Stanley	7
RL	Ralph Lauren Corporation	RL	No	NYSE	4:00	Wolverine Trading, LLC	7
RLGY	Realogy Holdings Corp.	RLGY	No	NYSE	4:00	Citadel Securities, LLC	7
RRC	Range Resources Corporation	RRC	No	NYSE	4:00	IMC Financial Markets	7
RSX	VanEck Vectors Russia ETF	RSX	Yes	NYSE Arca	4:00	Morgan Stanley	7
RTN	Raytheon Company	RTN	Yes	NYSE	4:00	Susquehanna Securities	7
S	Sprint Corporation	S	Yes	NYSE	4:00	IMC Financial Markets	8
SCHW	The Charles Schwab Corporation	SCHW	No	NYSE	4:00	Wolverine Trading, LLC	8
SDOW	ProShares UltraPro Short Dow30	SDOW	No	NYSE Arca	4:00	Susquehanna Securities	8
SEAS	SeaWorld Entertainment, Inc.	SEAS	No	NYSE	4:00	Susquehanna Securities	8
SFIX	Stitch Fix, Inc.	SFIX	No	NASDAQ	4:00	Citadel Securities, LLC	8
SGMS	Scientific Games Corporation	SGMS	No	NASDAQ	4:00	Morgan Stanley	8
SHOP	Shopify Inc.	SHOP	No	NYSE	4:00	Citadel Securities, LLC	8
SIRI	Sirius XM Radio Inc.	SIRI	Yes	NASDAQ	4:00	IMC Financial Markets	8
SLB	Schlumberger Limited	SLB	Yes	NYSE	4:00	Wolverine Trading, LLC	8
SLCA	US Silica Holdings Inc.	SLCA	No	NYSE	4:00	Citadel Securities, LLC	8
SLV	iShares Silver Trust	SLV	Yes	NYSE Arca	4:00	Optiver US LLC	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
SMH	VanEck Vectors Semiconductor ETF	SMH	Yes	NYSE Arca	4:00	Susquehanna Securities	8
SNAP	Snap, Inc	SNAP	Yes	NYSE	4:00	Two Sigma Securities, LLC	8
SO	Southern Company	SO	Yes	NYSE	4:00	Morgan Stanley	8
SONO	Sonos, Inc.	SONO	No	NASDAQ	4:00	Susquehanna Securities	8
SPLK	Splunk, Inc.	SPLK	No	NASDAQ	4:00	Wolverine Trading, LLC	8
SPOT	Spotify Technology S.A.	SPOT	No	NYSE	4:00	Susquehanna Securities	8
SPWR	SunPower Corporation	SPWR	Yes	NASDAQ	4:00	IMC Financial Markets	8
SPXL	Direxion Daily S&P500 Bull 3X ETF	SPXL	No	NYSE Arca	4:00	Two Sigma Securities, LLC	8
SPXS	Direxion Daily S&P 500 Bear 3X ETF	SPXS	No	NYSE Arca	4:00	Citadel Securities, LLC	8
SPXU	ProShares UltraPro Short S&P500	SPXU	No	NYSE Arca	4:00	Citadel Securities, LLC	8
SQ	Square, Inc.	SQ	Yes	NYSE	4:00	Two Sigma Securities, LLC	8
SSO	ProShares Ultra S&P500	SSO	Yes	NYSE Arca	4:00	Wolverine Trading, LLC	8
STM	STMicroelectronics N.V.	STM	No	NYSE	4:00	Morgan Stanley	8
STX	Seagate Technology plc	STX	Yes	NASDAQ	4:00	Morgan Stanley	8
STZ	Constellation Brands Inc.	STZ	No	NYSE	4:00	Morgan Stanley	8
SU	Suncor Energy Inc.	SU	Yes	NYSE	4:00	Morgan Stanley	8
SVXY	ProShares Short VIX Short-Term Futures	SVXY	Yes	NYSE Arca	4:15	Morgan Stanley	8
SWK	Stanley Black & Decker, Inc.	SWK	No	NYSE	4:00	Wolverine Trading, LLC	8
SWKS	Skyworks Solutions, Inc.	SWKS	No	NASDAQ	4:00	Wolverine Trading, LLC	8
SWN	Southwestern Energy Company	SWN	Yes	NYSE	4:00	Morgan Stanley	8
SYF	Synchrony Financial	SYF	No	NYSE	4:00	Wolverine Trading, LLC	8
SYMC	Symantec Corporation	SYMC	Yes	NASDAQ	4:00	Susquehanna Securities	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
TAL	TAL Education Group	TAL	No	NYSE	4:00	Morgan Stanley	8
TAP	Molson Coors Brewing Company	TAP	No	NYSE	4:00	Morgan Stanley	8
TDOC	Teladoc Health, Inc.	TDOC	No	NYSE	4:00	Wolverine Trading, LLC	8
TECK	Teck Resources Limited	TECK	Yes	NYSE	4:00	Morgan Stanley	8
TEVA	Teva Pharmaceutical Industries Limited	TEVA	Yes	NYSE	4:00	Morgan Stanley	8
TGT	Target Corporation	TGT	Yes	NYSE	4:00	IMC Financial Markets	8
TGTX	TG Therapeutics, Inc.	TGTX	No	NASDAQ	4:00	Morgan Stanley	8
THC	Tenet Healthcare Corporation	THC	No	NYSE	4:00	Citadel Securities, LLC	8
TIF	Tiffany & Co.	TIF	Yes	NYSE	4:00	Wolverine Trading, LLC	8
TJX	The TJX Companies, Inc.	TJX	No	NYSE	4:00	Morgan Stanley	8
TLRY	Tilray, Inc.	TLRY	Yes	NASDAQ	4:00	Citadel Securities, LLC	8
TMUS	T-Mobile Us, Inc.	TMUS	Yes	NASDAQ	4:00	Susquehanna Securities	8
TOL	Toll Brothers Inc.	TOL	No	NYSE	4:00	Wolverine Trading, LLC	8
TPR	Tapestry, Inc.	TPR	No	NYSE	4:00	Citadel Securities, LLC	8
TPX	Tempur Sealy International Inc.	TPX	No	NYSE	4:00	Citadel Securities, LLC	8
TQQQ	Proshares Ultra Pro QQQ	TQQQ	No	NASDAQ	4:00	IMC Financial Markets	8
TRI	Thomson Reuters Corporation	TRI	No	NYSE	4:00	Morgan Stanley	8
TRIP	TripAdvisor, Inc.	TRIP	No	NASDAQ	4:00	Wolverine Trading, LLC	8
TRN	Trinity Industries, Inc.	TRN	No	NYSE	4:00	Morgan Stanley	8
TROX	Tronox Limited	TROX	No	NYSE	4:00	Morgan Stanley	8
TRVN	Trevena, Inc.	TRVN	No	NASDAQ	4:00	Susquehanna Securities	8
TRXC	TransEnterix, Inc.	TRXC	No	AMEX	4:00	Citadel Securities, LLC	8
TSM	Taiwan Semiconductor Mfg. Company Limited	TSM	No	NYSE	4:00	Morgan Stanley	8



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
TSN	Tyson Foods, Inc.	TSN	No	NYSE	4:00	Susquehanna Securities	8
TTD	The Trade Desk, Inc.	TTD	No	NASDAQ	4:00	Citadel Securities, LLC	8
TTM	Tata Motors Limited	TTM	No	NYSE	4:00	Morgan Stanley	8
TTWO	Take-Two Interactive Software, Inc.	TTWO	No	NASDAQ	4:00	Susquehanna Securities	8
TUR	iShares MSCI Turkey ETF	TUR	No	NASDAQ	4:00	Morgan Stanley	8
TWLO	Twilio, Inc.	TWLO	Yes	NYSE	4:00	IMC Financial Markets	8
TWTR	Twitter, Inc.	TWTR	Yes	NYSE	4:00	Susquehanna Securities	8
TXMD	TherapeuticsMD, Inc.	TXMD	No	NASDAQ	4:00	Morgan Stanley	8
TXN	Texas Instruments Incorporated	TXN	Yes	NASDAQ	4:00	Susquehanna Securities	8
UA	Under Armour, Inc.	UA	No	NYSE	4:00	Morgan Stanley	9
UAA	Under Armour, Inc.	UAA	Yes	NYSE	4:00	IMC Financial Markets	9
UAL	United Continental Holdings, Inc.	UAL	Yes	NASDAQ	4:00	Susquehanna Securities	9
UCO	ProShares Ultra Bloomberg Crude Oil	UCO	Yes	NYSE Arca	4:00	Susquehanna Securities	9
ULTA	Ulta Beauty, Inc.	ULTA	No	NASDAQ	4:00	IMC Financial Markets	9
UNG	United States Natural Gas	UNG	Yes	NYSE Arca	4:15	Susquehanna Securities	9
UNH	UnitedHealth Group Incorporated	UNH	Yes	NYSE	4:00	IMC Financial Markets	9
UNM	Unum Group	UNM	No	NYSE	4:00	Citadel Securities, LLC	9
UNP	Union Pacific Corporation	UNP	Yes	NYSE	4:00	Susquehanna Securities	9
UPRO	ProShares UltraPro S&P500	UPRO	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
UPS	United Parcel Service, Inc.	UPS	Yes	NYSE	4:00	Wolverine Trading, LLC	9
URBN	Urban Outfitters, Inc.	URBN	No	NASDAQ	4:00	Wolverine Trading, LLC	9
UTX	United Technologies	UTX	Yes	NYSE	4:00	Wolverine Trading, LLC	9



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
	Corporation						
UUP	Invesco DB US Dollar Bullish	UUP	Yes	NYSE Arca	4:15	IMC Financial Markets	9
UVXY	ProShares Ultra VIX Short-Term Futures	UVXY	Yes	NYSE Arca	4:15	IMC Financial Markets	9
V	Visa Inc.	V	Yes	NYSE	4:00	Wolverine Trading, LLC	9
VEEV	Veeva Systems Inc.	VEEV	No	NYSE	4:00	Wolverine Trading, LLC	9
VFC	V.F. Corporation	VFC	No	NYSE	4:00	Susquehanna Securities	9
VIPS	Vipshop Holdings Limited	VIPS	No	NYSE	4:00	Two Sigma Securities, LLC	9
VKTX	Viking Therapeutics, Inc.	VKTX	No	NASDAQ	4:00	Citadel Securities, LLC	9
VLO	Valero Energy Corporation	VLO	Yes	NYSE	4:00	Susquehanna Securities	9
VMW	VMware, Inc.	VMW	No	NYSE	4:00	Citadel Securities, LLC	9
VNQ	Vanguard Real Estate ETF	VNQ	No	NYSE Arca	4:00	Wolverine Trading, LLC	9
VOD	Vodafone Group Plc	VOD	Yes	NASDAQ	4:00	Citadel Securities, LLC	9
VST	Vistra Energy Corp.	VST	No	NYSE	4:00	Morgan Stanley	9
VWO	Vanguard FTSE Emerging Markets ETF	VWO	No	NYSE Arca	4:00	Citadel Securities, LLC	9
VZ	Verizon Communications Inc.	VZ	Yes	NYSE	4:00	Susquehanna Securities	9
W	Wayfair Inc.	W	No	NYSE	4:00	Morgan Stanley	10
WB	Weibo Corporation	WB	No	NASDAQ	4:00	Morgan Stanley	10
WBA	Walgreens Boots Alliance, Inc.	WBA	Yes	NASDAQ	4:00	Morgan Stanley	10
WDAY	Workday, Inc.	WDAY	No	NASDAQ	4:00	Wolverine Trading, LLC	10
WDC	Western Digital Corporation	WDC	Yes	NASDAQ	4:00	Susquehanna Securities	10
WFC	Wells Fargo & Company	WFC	Yes	NYSE	4:00	Morgan Stanley	10
WFT	Weatherford International plc	WFT	Yes	NYSE	4:00	Morgan Stanley	10
WHR	Whirlpool Corporation	WHR	Yes	NYSE	4:00	Citadel Securities, LLC	10
WMB	The Williams Companies, Inc.	WMB	Yes	NYSE	4:00	Two Sigma Securities, LLC	10



Security Symbol	Security Name	Option Class	Penny Pilot	Exchange for Opening	Closing Time	PLMM	Cloud
WPM	Wheaton Precious Metals Corp.	WPM	Yes	NYSE	4:00	Susquehanna Securities	10
WPX	WPX Energy, Inc.	WPX	No	NYSE	4:00	Susquehanna Securities	10
WSM	Williams-Sonoma, Inc.	WSM	No	NYSE	4:00	Wolverine Trading, LLC	10
WWE	World Wrestling Entertainment, Inc.	WWE	No	NYSE	4:00	IMC Financial Markets	10
WYNN	Wynn Resorts, Limited	WYNN	Yes	NASDAQ	4:00	Wolverine Trading, LLC	10
X	United States Steel Corporation	X	Yes	NYSE	4:00	Morgan Stanley	10
XBI	SPDR S&P Biotech ETF	XBI	Yes	NYSE Arca	4:00	Citadel Securities, LLC	10
XLB	Materials Select Sector SPDR ETF	XLB	Yes	NYSE Arca	4:15	Wolverine Trading, LLC	10
XLE	Energy Select Sector SPDR ETF	XLE	Yes	NYSE Arca	4:15	Morgan Stanley	10
XLI	Industrial Select Sector SPDR ETF	XLI	Yes	NYSE Arca	4:15	Morgan Stanley	10
XLNX	Xilinx, Inc.	XLNX	Yes	NASDAQ	4:00	Citadel Securities, LLC	10
XLU	Utilities Select Sector SPDR ETF	XLU	Yes	NYSE Arca	4:15	Wolverine Trading, LLC	10
XLV	Health Care Select Sector SPDR ETF	XLV	Yes	NYSE Arca	4:15	Susquehanna Securities	10
XLY	Consumer Discret Sel Sect SPDR ETF	XLY	Yes	NYSE Arca	4:15	Susquehanna Securities	10
XME	SPDR S&P Metals and Mining ETF	XME	Yes	NYSE Arca	4:15	Citadel Securities, LLC	10
XOG	Extraction Oil & Gas, Inc.	XOG	No	NASDAQ	4:00	Wolverine Trading, LLC	10
XOM	Exxon Mobil Corporation	XOM	Yes	NYSE	4:00	IMC Financial Markets	10
XPO	XPO Logistics, Inc.	XPO	No	NYSE	4:00	Wolverine Trading, LLC	10
XRT	SPDR S&P Retail ETF	XRT	Yes	NYSE Arca	4:15	Wolverine Trading, LLC	10
XRX	Xerox Corporation	XRX	Yes	NYSE	4:00	Susquehanna Securities	10
YELP	Yelp Inc.	YELP	Yes	NYSE	4:00	Two Sigma Securities, LLC	10



<b>Security Symbol</b>	<b>Security Name</b>	<b>Option Class</b>	<b>Penny Pilot</b>	<b>Exchange for Opening</b>	<b>Closing Time</b>	<b>PLMM</b>	<b>Cloud</b>
YNDX	Yandex N.V.	YNDX	No	NASDAQ	4:00	Morgan Stanley	10
YPF	YPF Sociedad Anonima	YPF	No	NYSE	4:00	Susquehanna Securities	10
YUM	Yum! Brands, Inc.	YUM	Yes	NYSE	4:00	Citadel Securities, LLC	10
YY	YY Inc.	YY	No	NASDAQ	4:00	Wolverine Trading, LLC	10
Z	Zillow Group, Inc.	Z	No	NASDAQ	4:00	IMC Financial Markets	11
ZION	Zions Bancorporation, National Association	ZION	Yes	NASDAQ	4:00	Wolverine Trading, LLC	11
ZS	Zscaler, Inc.	ZS	No	NASDAQ	4:00	Susquehanna Securities	11

Please contact MIAX Options Listings with any questions.

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