



DATE: April 12, 2019

TO: MIAX Emerald Members

FROM: MIAX Emerald Regulatory Department

RE: Market for Underlying Security Used for Openings on MIAX Emerald for Newly Listed Option Symbols Effective Monday, April 15, 2019

The following symbols will start trading on MIAX Emerald beginning Monday, April 15, 2019, and, as set forth in MIAX Emerald Rule 503(d), MIAX Emerald shall use the exchange identified below as the “market for the underlying security” for purposes of Openings on the Exchange.

UNDERLYING SYMBOL	SECURITY NAME	OPTION SYMBOL	EXCHANGE FOR OPENING
AAC	AAC Holdings, Inc.	AAC	NYSE
AAWW	Atlas Air Worldwide Holdings, Inc.	AAWW	NASDAQ
ABEO	Abeona Therapeutics, Inc.	ABEO	NASDAQ
ABG	Asbury Automotive Group, Inc.	ABG	NYSE
ABR	Arbor Realty Trust, Inc.	ABR	NYSE
ABUS	Arbutus Biopharma Corporation	ABUS	NASDAQ
ACHN	Achillion Pharmaceuticals, Inc.	ACHN	NASDAQ
ACLS	Axcelis Technologies, Inc.	ACLS	NASDAQ
ACM	AECOM	ACM	NYSE
ACTG	Acacia Research Corporation	ACTG	NASDAQ
ADAP	Adaptimmune Therapeutics plc	ADAP	NASDAQ
ADS	Alliance Data Systems Corporation	ADS	NYSE
ADTN	ADTRAN, Inc.	ADTN	NASDAQ
AEIS	Advanced Energy Industries, Inc.	AEIS	NASDAQ
AEL	American Equity Investment Life Holding Company	AEL	NYSE
AER	AerCap Holdings N.V.	AER	NYSE
AERI	Aerie Pharmaceuticals, Inc.	AERI	NASDAQ
AGCO	AGCO Corporation	AGCO	NYSE
AGI	Alamos Gold, Inc.	AGI	NYSE
AGIO	Agios Pharmaceuticals, Inc.	AGIO	NASDAQ
AGQ	ProShares Ultra Silver	AGQ	NYSE Arca
AGRX	Agile Therapeutics, Inc.	AGRX	NASDAQ
AHT	Ashford Hospitality Trust, Inc.	AHT	NYSE
AIMT	Aimmune Therapeutics, Inc.	AIMT	NASDAQ



AJRD	Aerojet Rocketdyne Holdings, Inc.	AJRD	NYSE
AKAO	Achaogen, Inc.	AKAO	NASDAQ
AL	Air Lease Corporation	AL	NYSE
ALSN	Allison Transmission Holdings, Inc.	ALSN	NYSE
ALV	Autoliv, Inc.	ALV	NYSE
AMID	American Midstream Partners, L.P.	AMID	NYSE
AMKR	Amkor Technology, Inc.	AMKR	NASDAQ
AMPE	Ampio Pharmaceuticals, Inc.	AMPE	AMEX
AMSC	American Superconductor Corporation	AMSC	NASDAQ
AMWD	American Woodmark Corporation	AMWD	NASDAQ
AN	AutoNation, Inc.	AN	NYSE
ANDX	Andeavor Logistics, L.P.	ANDX	NYSE
ANGI	ANGI Homeservices, Inc.	ANGI	NASDAQ
ANSS	ANSYS, Inc.	ANSS	NASDAQ
AON	Aon plc	AON	NYSE
AOS	A.O. Smith Corporation	AOS	NYSE
APD	Air Products And Chemicals, Inc.	APD	NYSE
APH	Amphenol Corporation	APH	NYSE
APLE	Apple Hospitality REIT, Inc.	APLE	NYSE
APOG	Apogee Enterprises, Inc.	APOG	NASDAQ
APU	AmeriGas Partners, L.P.	APU	NYSE
AQMS	Aqua Metals, Inc.	AQMS	NASDAQ
ARCH	Arch Coal, Inc.	ARCH	NYSE
ARES	Ares Management Corporation	ARES	NYSE
AROC	Archrock, Inc.	AROC	NYSE
ARW	Arrow Electronics, Inc.	ARW	NYSE
ASH	Ashland Global Holdings, Inc.	ASH	NYSE
ASPS	Altisource Portfolio Solutions S.A.	ASPS	NASDAQ
ASUR	Asure Software, Inc.	ASUR	NASDAQ
ATEN	A10 Networks, Inc.	ATEN	NYSE
ATGE	Adtalem Global Education, Inc.	ATGE	NYSE
ATNM	Actinium Pharmaceuticals, Inc.	ATNM	AMEX
ATRA	Atara Biotherapeutics, Inc.	ATRA	NASDAQ
ATSG	Air Transport Services Group, Inc.	ATSG	NASDAQ
AUPH	Aurinia Pharmaceuticals, Inc.	AUPH	NASDAQ
AVT	Avnet, Inc.	AVT	NASDAQ
AVXL	Anavex Life Sciences Corp.	AVXL	NASDAQ
AWI	Armstrong World Industries, Inc.	AWI	NYSE
AWK	American Water Works Company, Inc.	AWK	NYSE
AX	Axos Financial, Inc.	AX	NYSE



AXGN	AxoGen, Inc.	AXGN	NASDAQ
AXGT	Axovant Sciences Ltd.	AXGT	NASDAQ
AXS	AXIS Capital Holdings Limited	AXS	NYSE
AZPN	Aspen Technology, Inc.	AZPN	NASDAQ
BAH	Booz Allen Hamilton Holding Corporation	BAH	NYSE
BAK	Braskem S.A.	BAK	NYSE
BAM	Brookfield Asset Management, Inc.	BAM	NYSE
BC	Brunswick Corporation	BC	NYSE
BCC	Boise Cascade Company	BCC	NYSE
BCE	BCE, Inc.	BCE	NYSE
BCEI	Bonanza Creek Energy, Inc.	BCEI	NYSE
BCRX	BioCryst Pharmaceuticas, Inc.	BCRX	NASDAQ
BECN	Beacon Roofing Supply, Inc.	BECN	NASDAQ
BFR	BBVA Banco Frances S.A.	BFR	NYSE
BGCP	BGC Partners, Inc.	BGCP	NASDAQ
BGNE	BeiGene, Ltd.	BGNE	NASDAQ
BIB	ProShares Ultra Nasdaq Biotechnology	BIB	NASDAQ
BIO	Bio-Rad Laboratories, Inc.	BIO	NYSE
BITA	Bitauto Holdings Limited	BITA	NYSE
BJRI	BJ's Restaurants, Inc.	BJRI	NASDAQ
BKE	The Buckle, Inc.	BKE	NYSE
BLCM	Bellicum Pharmaceuticals, Inc.	BLCM	NASDAQ
BLDP	Ballard Power Systems, Inc.	BLDP	NASDAQ
BLKB	Blackbaud, Inc.	BLKB	NASDAQ
BMO	Bank Of Montreal	BMO	NYSE
BNO	United States Brent Oil Fund, L.P.	BNO	NYSE Arca
BNS	The Bank Of Nova Scotia	BNS	NYSE
BOLD	Audentes Therapeutics, Inc.	BOLD	NASDAQ
BOTZ	Global X Robotics & Artificial Intelligence ETF	BOTZ	NASDAQ
BPI	Bridgepoint Education, Inc.	BPI	NYSE
BPOP	Popular, Inc.	BPOP	NASDAQ
BR	Broadridge Financial Solutions, Inc.	BR	NYSE
BREW	Craft Brew Alliance, Inc.	BREW	NASDAQ
BRFS	BRF S.A.	BRFS	NYSE
BRS	Bristow Group, Inc.	BRS	NYSE
BRX	Brixmor Property Group, Inc.	BRX	NYSE
BTE	Baytex Energy Corp.	BTE	NYSE
BTX	BioTime, Inc.	BTX	AMEX
BXMT	Blackstone Mortgage Trust, Inc.	BXMT	NYSE
BXP	Boston Properties, Inc.	BXP	NYSE



BZQ	Proshares Ultrashort MSCI Brazil Capped	BZQ	NYSE Arca
CACC	Credit Acceptance Corporation	CACC	NASDAQ
CAI	CAI International, Inc.	CAI	NYSE
CAL	Caleres, Inc.	CAL	NYSE
CALA	Calithera Biosciences, Inc.	CALA	NASDAQ
CALM	Cal-Maine Foods, Inc.	CALM	NASDAQ
CALX	Calix, Inc.	CALX	NYSE
CAMP	CalAmp Corp.	CAMP	NASDAQ
CARB	Carbonite, Inc.	CARB	NASDAQ
CASY	Casey's General Stores, Inc.	CASY	NASDAQ
CBAY	CymaBay Therapeutics, Inc.	CBAY	NASDAQ
CBIO	Catalyst Biosciences, Inc.	CBIO	NASDAQ
CBM	Cambrex Corporation	CBM	NYSE
CBPO	China Biologic Products Holdings, Inc.	CBPO	NASDAQ
CBRE	CBRE Group, Inc.	CBRE	NYSE
CCLP	CSI Compressco, L.P.	CCLP	NASDAQ
CCS	Century Communities, Inc.	CCS	NYSE
CCXI	ChemoCentryx, Inc.	CCXI	NASDAQ
CDK	CDK Global, Inc.	CDK	NASDAQ
CDMO	Avid Bioservices, Inc.	CDMO	NASDAQ
CEO	CNOOC Limited	CEO	NYSE
CEQP	Crestwood Equity Partners, L.P.	CEQP	NYSE
CERS	Cerus Corporation	CERS	NASDAQ
CGNX	Cognex Corporation	CGNX	NASDAQ
CHAD	Direxion Daily CSI 300 China A Share Bear 1X Shares	CHAD	NYSE Arca
CHAU	Direxion Daily CSI 300 China A Share Bull 2X Shares	CHAU	NYSE Arca
CHRS	Coherus BioSciences, Inc.	CHRS	NASDAQ
CHS	Chico's FAS, Inc.	CHS	NYSE
CLB	Core Laboratories N.V.	CLB	NYSE
CLGX	CoreLogic, Inc.	CLGX	NYSE
CLNE	Clean Energy Fuels Corp.	CLNE	NASDAQ
CLSD	Clearside Biomedical, Inc.	CLSD	NASDAQ
CM	Canadian Imperial Bank Of Commerce	CM	NYSE
CMC	Commercial Metals Company	CMC	NYSE
CMCM	Cheetah Mobile, Inc.	CMCM	NYSE
CMPR	Cimpress N.V.	CMPR	NASDAQ
CMRE	Costamare, Inc.	CMRE	NYSE
CMTL	Comtech Telecommunications Corp.	CMTL	NASDAQ



CNDT	Conduent Incorporated	CNDT	NYSE
CNET	ChinaNet Online Holdings, Inc.	CNET	NASDAQ
CNHI	CNH Industrial N.V.	CNHI	NYSE
COMM	CommScope Holding Company, Inc.	COMM	NASDAQ
CONE	CyrusOne, Inc.	CONE	NASDAQ
COO	The Cooper Companies, Inc.	COO	NYSE
CORN	Teucrium Corn Fund	CORN	NYSE Arca
CORV	Correvio Pharma Corp.	CORV	NASDAQ
COT	Cott Corporation	COT	NYSE
CPG	Crescent Point Energy Corp.	CPG	NYSE
CPRX	Catalyst Pharmaceuticals, Inc.	CPRX	NASDAQ
CQP	Cheniere Energy Partners, L.P.	CQP	AMEX
CRAY	Cray, Inc	CRAY	NASDAQ
CRI	Carter's , Inc.	CRI	NYSE
CRK	Comstock Resources, Inc.	CRK	NYSE
CRNT	Ceragon Networks, Ltd.	CRNT	NASDAQ
CRR	CARBO Ceramics, Inc.	CRR	NYSE
CRTO	Criteo S.A.	CRTO	NASDAQ
CSOD	Cornerstone OnDemand, Inc.	CSOD	NASDAQ
CSTE	Caesarstone, Ltd.	CSTE	NASDAQ
CTAS	Cintas Corporation	CTAS	NASDAQ
CTRL	Control4 Corporation	CTRL	NASDAQ
CTSO	Cytosorbents Corporation	CTSO	NASDAQ
CURE	Direxion Daily Healthcare Bull 3X Shares	CURE	NYSE Arca
CVA	Covanta Holding Corporation	CVA	NYSE
CVGW	Calavo Growers, Inc.	CVGW	NASDAQ
CWEN	Clearway Energy, Inc.	CWEN	NYSE
CXW	CoreCivic, Inc.	CXW	NYSE
CYOU	Changyou.com Limited	CYOU	NASDAQ
CYTK	Cytokinetics, Incorporated	CYTK	NASDAQ
DAR	Darling Ingredients, Inc.	DAR	NYSE
DBC	Invesco DB Commodity Index Tracking Fund	DBC	NYSE Arca
DBO	Invesco DB Oil Fund	DBO	NYSE Arca
DCP	DCP Midstream, L.P.	DCP	NYSE
DDM	ProShares Ultra Dow30	DDM	NYSE Arca
DECK	Deckers Outdoor Corporation	DECK	NYSE
DENN	Denny's Corporation	DENN	NASDAQ
DGX	Quest Diagnostics Incorporated	DGX	NYSE
DHT	DHT Holdings, Inc.	DHT	NYSE
DLTH	Duluth Holdings, Inc.	DLTH	NASDAQ



DOX	Amdocs Limited	DOX	NASDAQ
DPLO	Diplomat Pharmacy, Inc.	DPLO	NYSE
DQ	Daqo New Energy Corp.	DQ	NYSE
DRN	Direxion Daily Real Estate Bull 3x Shares	DRN	NYSE Arca
DRV	Direxion Daily Real Estate Bear 3x Shares	DRV	NYSE Arca
DS	Drive Shack, Inc.	DS	NYSE
DSX	Diana Shipping, Inc.	DSX	NYSE
DTE	DTE Energy Company	DTE	NYSE
DVY	iShares Select Dividend ETF	DVY	NASDAQ
DXD	ProShares UltraShort Dow30	DXD	NYSE Arca
DY	Dycom Industries, Inc.	DY	NYSE
ECPG	Encore Capital Group, Inc.	ECPG	NASDAQ
EDC	Direxion Daily MSCI Emerging Markets Bull 3X Shares	EDC	NYSE Arca
EDZ	Direxion Daily MSCI Emerging Markets Bear 3X Shares	EDZ	NYSE Arca
EEFT	Euronet Worldwide, Inc.	EEFT	NASDAQ
EFII	Electronics for Imaging, Inc.	EFII	NASDAQ
EGHT	8x8, Inc.	EGHT	NYSE
EGO	Eldorado Gold Corporation	EGO	NYSE
EGY	VAALCO Energy, Inc.	EGY	NYSE
EHC	Encompass Health Corporation	EHC	NYSE
EIGI	Endurance International Group Holdings, Inc.	EIGI	NASDAQ
ELF	e.l.f. Beauty, Inc.	ELF	NYSE
ELY	Callaway Golf Company	ELY	NYSE
ENR	Energizer Holdings, Inc.	ENR	NYSE
ENTA	Enanta Pharmaceuticals, Inc.	ENTA	NASDAQ
ENTG	Entegris, Inc.	ENTG	NASDAQ
EPAY	Bottomline Technologies (de), Inc.	EPAY	NASDAQ
EPE	EP Energy Corporation	EPE	NYSE
EPR	EPR Properties	EPR	NYSE
EQH	AXA Equitable Holdings, Inc.	EQH	NYSE
EQIX	Equinix, Inc.	EQIX	NASDAQ
EQR	Equity Residential	EQR	NYSE
ERF	Enerplus Corporation	ERF	NYSE
ERII	Energy Recovery, Inc.	ERII	NASDAQ
ERJ	Embraer S.A.	ERJ	NYSE
ERY	Direxion Daily Energy Bear 3X Shares	ERY	NYSE Arca
ES	Eversource Energy	ES	NYSE
ESNT	Essent Group, Ltd.	ESNT	NYSE



ESS	Essex Property Trust, Inc.	ESS	NYSE
ETH	Ethan Allen Interiors, Inc.	ETH	NYSE
EVH	Evolent Health, Inc.	EVH	NYSE
EWU	iShares MSCI United Kingdom ETF	EWU	NYSE Arca
EXK	Endeavour Silver Corp.	EXK	NYSE
EXPD	Expeditors International of Washington, Inc.	EXPD	NASDAQ
EZPW	EZCORP, Inc.	EZPW	NASDAQ
FATE	Fate Therapeutics, Inc.	FATE	NASDAQ
FBHS	Fortune Brands Home & Security, Inc.	FBHS	NYSE
FCEL	FuelCell Energy, Inc.	FCEL	NASDAQ
FDN	First Trust Dow Jones Internet Index Fund	FDN	NYSE Arca
FDS	FactSet Research Systems, Inc.	FDS	NYSE
FGP	Ferrellgas Partners, L.P.	FGP	NYSE
FHN	First Horizon National Corporation	FHN	NYSE
FII	Federated Investors, Inc.	FII	NYSE
FISV	Fiserv, Inc.	FISV	NASDAQ
FIVN	Five9, Inc.	FIVN	NASDAQ
FIZZ	National Beverage Corp.	FIZZ	NASDAQ
FLIR	FLIR Systems, Inc.	FLIR	NASDAQ
FLO	Flowers Foods, Inc.	FLO	NYSE
FLS	Flowserve Corporation	FLS	NYSE
FLWS	1-800-FLOWERS.Com, Inc.	FLWS	NASDAQ
FN	Fabrinet	FN	NYSE
FNF	Fidelity National Financial, Inc.	FNF	NYSE
FORM	FormFactor, Inc.	FORM	NASDAQ
FPRX	Five Prime Therapeutics, Inc.	FPRX	NASDAQ
FRAC	Keane Group, Inc.	FRAC	NYSE
FRC	First Republic Bank	FRC	NYSE
FRPT	Freshpet, Inc.	FRPT	NASDAQ
FSCT	Forescout Technologies, Inc.	FSCT	NASDAQ
FSM	Fortuna Silver Mines Inc.	FSM	NYSE
FTD	FTD Companies, Inc.	FTD	NASDAQ
FTK	Flotek Industries, Inc.	FTK	NYSE
FUN	Cedar Fair, L.P.	FUN	NYSE
FXB	ProShares UltraShort FTSE China 50	FXB	NYSE Arca
FXC	Invesco CurrencyShares Canadian Dollar Trust	FXC	NYSE Arca
FXF	Invesco CurrencyShares Swiss Franc Trust	FXF	NYSE Arca
GASL	Direxion Daily Natural Gas Related Bull 3X Shares	GASL	NYSE Arca
GBX	The Greenbrier Companies, Inc.	GBX	NYSE



GCI	Gannett Co., Inc.	GCI	NYSE
GCO	Genesco, Inc.	GCO	NYSE
GDEN	Golden Entertainment, Inc.	GDEN	NASDAQ
GEL	Genesis Energy, L.P.	GEL	NYSE
GEO	The GEO Group, Inc.	GEO	NYSE
GHDX	Genomic Health, Inc.	GHDX	NASDAQ
GLOB	Globant S.A.	GLOB	NYSE
GLRE	Greenlight Capital Re, Ltd.	GLRE	NASDAQ
GMED	Globus Medical, Inc.	GMED	NYSE
GNE	Genie Energy, Ltd.	GNE	NYSE
GOGL	Golden Ocean Group Limited	GOGL	NASDAQ
GORO	Gold Resource Corporation	GORO	AMEX
GPK	Graphic Packaging Holding Company	GPK	NYSE
GPN	Global Payments, Inc.	GPN	NYSE
GREK	Global X MSCI Greece ETF	GREK	NYSE Arca
GSAT	Globalstar, Inc.	GSAT	AMEX
GSM	Ferroglobe plc	GSM	NASDAQ
GSVC	GSV Capital Corp.	GSVC	NASDAQ
GTES	Gates Industrial Corporation plc	GTES	NYSE
GTLS	Chart Industries, Inc.	GTLS	NASDAQ
GTN	Gray Television, Inc.	GTN	NYSE
GWRE	Guidewire Software, Inc.	GWRE	NYSE
HA	Hawaiian Holdings, Inc.	HA	NASDAQ
HABT	The Habit Restaurants, Inc.	HABT	NASDAQ
HACK	ETFMG Prime Cyber Security ETF	HACK	NYSE Arca
HALO	Halozyme Therapeutics, Inc.	HALO	NASDAQ
HCC	Warrior Met Coal, Inc.	HCC	NYSE
HCI	HCI Group, Inc.	HCI	NYSE
HDB	HDFC Bank Limited	HDB	NYSE
HDS	HD Supply Holdings, Inc.	HDS	NASDAQ
HDSN	Hudson Technologies, Inc.	HDSN	NASDAQ
HEDJ	Wisdomtree Europe Hedged Equity Fund	HEDJ	NYSE Arca
HEES	H&E Equipment Services, Inc.	HEES	NASDAQ
HGV	Hilton Grand Vacations, Inc.	HGV	NYSE
HII	Huntington Ingalls Industries, Inc.	HII	NYSE
HK	Halcon Resources Corporation	HK	NYSE
HLX	Helix Energy Solutions Group, Inc.	HLX	NYSE
HMC	Honda Motor Co., Ltd.	HMC	NYSE
HMSY	HMS Holdings Corp.	HMSY	NASDAQ



HOLX	Hologic, Inc.	HOLX	NASDAQ
HOS	Hornbeck Offshore Services, Inc.	HOS	NYSE
HPT	Hospitality Properties Trust	HPT	NASDAQ
HQY	HealthEquity, Inc.	HQY	NASDAQ
HRC	Hill-Rom Holdings, Inc.	HRC	NYSE
HRI	Herc Holdings Inc.	HRI	NYSE
HRS	Harris Corporation	HRS	NYSE
HRTX	Heron Therapeutics, Inc.	HRTX	NASDAQ
HSC	Harsco Corporation	HSC	NYSE
HSII	Heidrick & Struggles International, Inc.	HSII	NASDAQ
HST	Host Hotels & Resorts, Inc.	HST	NYSE
IDT	IDT Corporation	IDT	NYSE
IEMG	iShares Core MSCI Emerging Markets ETF	IEMG	NYSE Arca
IEP	Icahn Enterprises, L.P.	IEP	NASDAQ
IFF	International Flavors & Fragrances, Inc.	IFF	NYSE
IIVI	II-VI Incorporated	IIVI	NASDAQ
IJH	iShares Core S&P Mid-Cap ETF	IJH	NYSE Arca
IJR	iShares Core S&P Small-Cap ETF	IJR	NYSE Arca
IMAX	IMAX Corporation	IMAX	NYSE
IMMR	Immersion Corporation	IMMR	NASDAQ
INAP	Internap Corporation	INAP	NASDAQ
INDL	Direxion Daily MSCI India Bull 3x Shares	INDL	NYSE Arca
INFI	Infinity Pharmaceuticals, Inc.	INFI	NASDAQ
INGN	Inogen, Inc.	INGN	NASDAQ
INGR	Ingredion Incorporated	INGR	NYSE
INOV	Inovalon Holdings, Inc.	INOV	NASDAQ
INSY	INSYS Therapeutics, Inc.	INSY	NASDAQ
INXN	InterXion Holding N.V.	INXN	NYSE
IOVA	iovance Biotherapeutics, Inc.	IOVA	NASDAQ
IPGP	IPG Photonics Corporation	IPGP	NASDAQ
IPHI	Inphi Corporation	IPHI	NYSE
IPI	Intrepid Potash, Inc.	IPI	NYSE
IRWD	Ironwood Pharmaceuticals, Inc.	IRWD	NASDAQ
ISBC	Investors Bancorp, Inc.	ISBC	NASDAQ
ITA	iShares U.S. Aerospace & Defense ETF	ITA	BATS
IWD	iShares Russell 1000 Value ETF	IWD	NYSE Arca
IWN	iShares Russell 2000 Value ETF	IWN	NYSE Arca
JAG	Jagged Peak Energy, Inc.	JAG	NYSE
JBHT	J.B. Hunt Transport Services, Inc.	JBHT	NASDAQ



JBT	John Bean Technologies Corporation	JBT	NYSE
JCOM	j2 Global, Inc.	JCOM	NASDAQ
JKHY	Jack Henry & Associates, Inc.	JKHY	NASDAQ
JLL	Jones Lang LaSalle Incorporated	JLL	NYSE
JMEI	Jumei International Holding Limited	JMEI	NYSE
JNCE	Jounce Therapeutics, Inc.	JNCE	NASDAQ
JOE	The St. Joe Company	JOE	NYSE
KAR	KAR Auction Services, Inc.	KAR	NYSE
KBR	KBR, Inc.	KBR	NYSE
KEYW	The KeyW Holding Corporation	KEYW	NASDAQ
KFY	Korn Ferry	KFY	NYSE
KMT	Kennametal, Inc.	KMT	NYSE
KNOP	KNOT Offshore Partners, L.P.	KNOP	NYSE
KOLD	ProShares UltraShort Bloomberg Natural Gas	KOLD	NYSE Arca
KPTI	Karyopharm Therapeutics, Inc.	KPTI	NASDAQ
KRNT	Kornit Digital, Ltd.	KRNT	NASDAQ
KRO	Kronos Worldwide, Inc.	KRO	NYSE
L	Loews Corporation	L	NYSE
LAD	Lithia Motors, Inc.	LAD	NYSE
LADR	Ladder Capital Corp	LADR	NYSE
LAZ	Lazard, Ltd.	LAZ	NYSE
LBRDK	Liberty Broadband Corporation	LBRDK	NASDAQ
LBTYA	Liberty Global plc	LBTYA	NASDAQ
LEG	Leggett & Platt, Incorporated	LEG	NYSE
LFC	China Life Insurance Company Limited	LFC	NYSE
LH	Laboratory Corporation of America Holdings	LH	NYSE
LHCG	LHC Group, Inc.	LHCG	NASDAQ
LII	Lennox International, Inc.	LII	NYSE
LIT	Global X Lithium & Battery Tech ETF	LIT	NYSE Arca
LLL	L3 Technologies, Inc.	LLL	NYSE
LLNW	Limelight Networks, Inc.	LLNW	NASDAQ
LM	Legg Mason, Inc.	LM	NYSE
LNN	Lindsay Corporation	LNN	NYSE
LOGI	Logitech International S.A.	LOGI	NASDAQ
LOGM	LogMeIn, Inc.	LOGM	NASDAQ
LOPE	Grand Canyon Education, Inc.	LOPE	NASDAQ
LPL	LG Display Co., Ltd.	LPL	NYSE
LPLA	LPL Financial Holdings, Inc.	LPLA	NASDAQ
LPSN	LivePerson, Inc.	LPSN	NASDAQ



LSCC	Lattice Semiconductor Corporation	LSCC	NASDAQ
LSI	Life Storage, Inc.	LSI	NYSE
LSTR	Landstar System, Inc.	LSTR	NASDAQ
LW	Lamb Weston Holdings, Inc.	LW	NYSE
LXRX	Lexicon Pharmaceuticals, Inc.	LXRX	NASDAQ
LYG	Lloyds Banking Group plc	LYG	NYSE
LZB	La-Z-Boy Incorporated	LZB	NYSE
MAA	Mid-America Apartment Communities, Inc.	MAA	NYSE
MAG	MAG Silver Corp.	MAG	AMEX
MAN	ManpowerGroup, Inc.	MAN	NYSE
MANH	Manhattan Associates, Inc.	MANH	NASDAQ
MARK	Remark Holdings, Inc.	MARK	NASDAQ
MASI	Masimo Corporation	MASI	NASDAQ
MBUU	Malibu Boats, Inc.	MBUU	NASDAQ
MDC	M.D.C. Holdings, Inc.	MDC	NYSE
MDRX	Allscripts Healthcare Solutions, Inc.	MDRX	NASDAQ
MDSO	Medidata Solutions, Inc.	MDSO	NASDAQ
MED	Medifast, Inc.	MED	NYSE
MFGP	Micro Focus International plc	MFGP	NYSE
MGI	MoneyGram International, Inc.	MGI	NASDAQ
MHLD	Maiden Holdings, Ltd.	MHLD	NASDAQ
MIDD	The Middleby Corporation	MIDD	NASDAQ
MITK	Mitek Systems, Inc.	MITK	NASDAQ
MKSI	MKS Instruments, Inc.	MKSI	NASDAQ
MLHR	Herman Miller, Inc.	MLHR	NASDAQ
MMC	Marsh & McLennan Companies, Inc.	MMC	NYSE
MMLP	Martin Midstream Partners, L.P.	MMLP	NASDAQ
MMYT	MakeMyTrip Limited	MMYT	NASDAQ
MNTA	Momenta Pharmaceuticals, Inc.	MNTA	NASDAQ
MOH	Molina Healthcare, Inc.	MOH	NYSE
MOV	Movado Group, Inc.	MOV	NYSE
MPW	Medical Properties Trust, Inc.	MPW	NYSE
MRCY	Mercury Systems, Inc.	MRCY	NASDAQ
MSCI	MSCI, Inc	MSCI	NYSE
MSG	The Madison Square Garden Company	MSG	NYSE
MSI	Motorola Solutions, Inc.	MSI	NYSE
MSM	MSC Industrial Direct Co., Inc.	MSM	NYSE



MTB	M & T Bank Corporation	MTB	NYSE
MTDR	Matador Resources Company	MTDR	NYSE
MTH	Meritage Homes Corporation	MTH	NYSE
MTN	Vail Resorts, Inc.	MTN	NYSE
MTOR	Meritor, Inc.	MTOR	NYSE
MTRX	Matrix Service Company	MTRX	NASDAQ
MTSI	MACOM Technology Solutions Holdings, Inc.	MTSI	NASDAQ
MTW	The Manitowoc Company, Inc.	MTW	NYSE
MVIS	MicroVision, Inc.	MVIS	NASDAQ
MX	MagnaChip Semiconductor Corporation	MX	NYSE
NANO	Nanometrics Incorporated	NANO	NASDAQ
NBRV	Nabriva Therapeutics plc	NBRV	NASDAQ
NCMI	National CineMedia, Inc.	NCMI	NASDAQ
NCS	NCI Building Systems, Inc.	NCS	NYSE
NDLS	Noodles & Company	NDLS	NASDAQ
NFG	National Fuel Gas Company	NFG	NYSE
NG	NovaGold Resources, Inc.	NG	AMEX
NGVC	Natural Grocers by Vitamin Cottage, Inc.	NGVC	NYSE
NHI	National Health Investors, Inc.	NHI	NYSE
NI	NiSource, Inc.	NI	NYSE
NK	NantKwest, Inc.	NK	NASDAQ
NLNK	NewLink Genetics Corporation	NLNK	NASDAQ
NMM	Navios Maritime Partners, L.P.	NMM	NYSE
NS	NuStar Energy, L.P.	NS	NYSE
NSP	Insperity, Inc.	NSP	NYSE
NTLA	Intellia Therapeutics, Inc.	NTLA	NASDAQ
NTRS	Northern Trust Corporation	NTRS	NASDAQ
NTWK	NetSol Technologies, Inc.	NTWK	NASDAQ
NUVA	NuVasive, Inc.	NUVA	NASDAQ
NVGS	Navigator Holdings, Ltd.	NVGS	NYSE
NVRO	Nevro Corp.	NVRO	NYSE
NXGN	NextGen Healthcare, Inc.	NXGN	NASDAQ
NYMX	Nymox Pharmaceutical Corporation	NYMX	NASDAQ
OAK	Oaktree Capital Group, LLC	OAK	NYSE
OCUL	Ocular Therapeutix, Inc.	OCUL	NASDAQ
ODFL	Old Dominion Freight Line, Inc.	ODFL	NASDAQ
OFG	OFG Bancorp	OFG	NYSE
OI	Owens-Illinois, Inc.	OI	NYSE
OII	Oceaneering International, Inc.	OII	NYSE
OMEX	Odyssey Marine Exploration, Inc.	OMEX	NASDAQ



OMF	OneMain Holdings, Inc.	OMF	NYSE
OMI	Owens & Minor, Inc.	OMI	NYSE
ORC	Orchid Island Capital, Inc.	ORC	NYSE
OSIS	OSI Systems, Inc.	OSIS	NASDAQ
OSK	Oshkosh Corporation	OSK	NYSE
OTEX	Open Text Corporation	OTEX	NASDAQ
OUT	Outfront Media, Inc.	OUT	NYSE
OXM	Oxford Industries, Inc.	OXM	NYSE
OZM	Och-Ziff Capital Management Group LLC	OZM	NYSE
PACW	PacWest Bancorp	PACW	NASDAQ
PBA	Pembina Pipeline Corporation	PBA	NYSE
PBCT	People's United Financial, Inc.	PBCT	NASDAQ
PBPB	Potbelly Corporation	PBPB	NASDAQ
PDCO	Patterson Companies, Inc.	PDCO	NASDAQ
PEG	Public Service Enterprise Group Incorporated	PEG	NYSE
PEIX	Pacific Ethanol, Inc.	PEIX	NASDAQ
PER	SandRidge Permian Trust	PER	NYSE
PES	Pioneer Energy Services Corp.	PES	NYSE
PETS	PetMed Express, Inc.	PETS	NASDAQ
PFG	Principal Financial Group, Inc.	PFG	NASDAQ
PI	Impinj, Inc.	PI	NASDAQ
PIR	Pier 1 Imports, Inc.	PIR	NYSE
PKI	PerkinElmer, Inc.	PKI	NYSE
PLD	Prologis, Inc.	PLD	NYSE
PLX	Protalix BioTherapeutics, Inc.	PLX	AMEX
PNR	Pentair plc	PNR	NYSE
PODD	Insulet Corporation	PODD	NASDAQ
POOL	Pool Corporation	POOL	NASDAQ
PRFT	Perficient, Inc.	PRFT	NASDAQ
PRGS	Progress Software Corporation	PRGS	NASDAQ
PRLB	Proto Labs, Inc.	PRLB	NYSE
PRO	PROS Holdings, Inc.	PRO	NYSE
PRSP	Perspecta Inc.	PRSP	NYSE
PRTA	Prothena Corporation plc	PRTA	NASDAQ
PSEC	Prospect Captial Corporation	PSEC	NASDAQ
PSO	Pearson plc	PSO	NYSE
PSTI	Pluristem Therapeutics, Inc.	PSTI	NASDAQ
PXLW	Pixelworks, Inc.	PXLW	NASDAQ
QDEL	Quidel Corporation	QDEL	NASDAQ



QNST	QuinStreet, Inc.	QNST	NASDAQ
QRTEA	Qurate Retail, Inc.	QRTEA	NASDAQ
QURE	uniQure N.V.	QURE	NASDAQ
R	Ryder System, Inc.	R	NYSE
RARE	Ultragenyx Pharmaceutical Inc.	RARE	NASDAQ
RDN	Radian Group, Inc.	RDN	NYSE
RDWR	Radware, Ltd.	RDWR	NASDAQ
REGI	Renewable Energy Group, Inc.	REGI	NASDAQ
REI	Ring Energy, Inc.	REI	AMEX
REM	iShares Mortgage Real Estate Capped ETF	REM	BATS
RENN	Renren Inc.	RENN	NYSE
RES	RPC, Inc.	RES	NYSE
RFP	Resolute Forest Products Inc.	RFP	NYSE
RGEN	Repligen Corporation	RGEN	NASDAQ
RGR	Sturm, Ruger & Company, Inc.	RGR	NYSE
RHI	Robert Half International, Inc.	RHI	NYSE
RLJ	RLJ Lodging Trust	RLJ	NYSE
RMBS	Rambus, Inc.	RMBS	NASDAQ
RMTI	Rockwell Medical, Inc.	RMTI	NASDAQ
ROL	Rollins, Inc.	ROL	NYSE
ROM	ProShares Ultra Technology	ROM	NYSE Arca
ROP	Roper Technologies, Inc.	ROP	NYSE
RP	RealPage, Inc.	RP	NASDAQ
RPD	Rapid7, Inc.	RPD	NASDAQ
RPM	RPM International Inc.	RPM	NYSE
RS	Reliance Steel & Aluminum Co.	RS	NYSE
RSG	Republic Services, Inc.	RSG	NYSE
RSP	Invesco S&P 500 Equal Weight ETF	RSP	NYSE Arca
RST	Rosetta Stone, Inc.	RST	NYSE
RTRX	Retrophin, Inc.	RTRX	NASDAQ
RUBI	the Rubicon Project, Inc.	RUBI	NYSE
RUSL	Direxion Daily Russia Bull 3x Shares	RUSL	NYSE Arca
RUSS	Direxion Daily Russia Bear 3x Shares	RUSS	NYSE Arca
RUTH	Ruth's Hospitality Group, Inc.	RUTH	NASDAQ
RY	Royal Bank Of Canada	RY	NYSE
RYAAY	Ryanair Holdings plc	RYAAY	NASDAQ
RYAM	Rayonier Advanced Materials, Inc.	RYAM	NYSE
SAFM	Sanderson Farms, Inc.	SAFM	NASDAQ
SAIC	Science Applications International Corporation	SAIC	NYSE
SAIL	SailPoint Technologies Holdings, Inc.	SAIL	NYSE
SALT	Scorpio Bulkers Inc.	SALT	NYSE
SAM	The Boston Beer Company, Inc.	SAM	NYSE
SAVE	Spirit Airlines, Inc.	SAVE	NYSE
SBH	Sally Beauty Holdings, Inc.	SBH	NYSE



SBLK	Star Bulk Carriers Corp.	SBLK	NASDAQ
SBNY	Signature Bank	SBNY	NASDAQ
SBRA	Sabra Health Care REIT, Inc.	SBRA	NASDAQ
SC	Santander Consumer USA Holdings, Inc.	SC	NYSE
SCHN	Schnitzer Steel Industries, Inc.	SCHN	NASDAQ
SEM	Select Medical Holdings Corporation	SEM	NYSE
SEMG	SemGroup Corporation	SEMG	NYSE
SENS	Senseonics Holdings, Inc.	SENS	AMEX
SERV	ServiceMaster Global Holdings, Inc.	SERV	NYSE
SESN	Sesen Bio, Inc.	SESN	NASDAQ
SF	Stifel Financial Corp.	SF	NYSE
SFL	Ship Finance International Limited	SFL	NYSE
SFUN	Fang Holdings Limited	SFUN	NYSE
SGEN	Seattle Genetics, Inc.	SGEN	NASDAQ
SGH	SMART Global Holdings, Inc.	SGH	NASDAQ
SHLX	Shell Midstream Partners, L.P.	SHLX	NYSE
SID	Companhia Siderurgical Nacional	SID	NYSE
SIVB	SVB Financial Group	SIVB	NASDAQ
SJT	San Juan Basin Royalty Trust	SJT	NYSE
SKF	ProShares UltraShort Financials	SKF	NYSE Arca
SLAB	Silicon Laboratories Inc.	SLAB	NASDAQ
SLG	SL Green Realty Corp.	SLG	NYSE
SMLP	Summit Midstream Partners, L.P.	SMLP	NYSE
SMSI	Smith Micro Software, Inc.	SMSI	NASDAQ
SMTC	Semtech Corporation	SMTC	NASDAQ
SNA	Snap-On Incorporated	SNA	NYSE
SNH	Senior Housing Properties Trust	SNH	NASDAQ
SNP	China Petroleum & Chemical Corporation	SNP	NYSE
SNSS	Sunesis Pharmaceuticals, Inc.	SNSS	NASDAQ
SNV	Synovus Financial Corp.	SNV	NYSE
SORL	SORL Auto Parts, Inc.	SORL	NASDAQ
SPB	Spectrum Brands Holdings, Inc.	SPB	NYSE
SPGI	S&P Global, Inc.	SPGI	NYSE
SPH	Suburban Propane Partners, L.P.	SPH	NYSE
SPHS	Sophiris Bio, Inc.	SPHS	NASDAQ
SPN	Superior Energy Services, Inc.	SPN	NYSE
SQM	Sociedad Quimica y Minera de Chile S.A.	SQM	NYSE
SRCL	Stericycle, Inc.	SRCL	NASDAQ
SSTK	Shutterstock, Inc.	SSTK	NYSE
ST	Sensata Technologies Holding plc	ST	NYSE
STAY	Extended Stay America, Inc.	STAY	NASDAQ
STKL	SunOpta Inc.	STKL	NASDAQ
STOR	STORE Capital Corporation	STOR	NYSE
STWD	Starwood Property Trust, Inc.	STWD	NYSE
SUPN	Supernus Pharmaceuticals, Inc.	SUPN	NASDAQ
SWCH	Switch, Inc.	SWCH	NYSE



SWIR	Sierra Wireless, Inc.	SWIR	NASDAQ
TA	TravelCenters of America LLC	TA	NASDAQ
TACO	Del Taco Restaurants, Inc.	TACO	NASDAQ
TAN	Invesco Solar ETF	TAN	NYSE Arca
TCBI	Texas Capital Bancshares, Inc.	TCBI	NASDAQ
TCP	TC Pipelines, L.P.	TCP	NYSE
TCS	The Container Store Group, Inc.	TCS	NYSE
TDG	TransDigm Group Incorporated	TDG	NYSE
TDS	Telephone & Data Systems, Inc.	TDS	NYSE
TECD	Tech Data Corporation	TECD	NASDAQ
TECL	Direxion Daily Technology Bull 3x Shares	TECL	NYSE Arca
TEN	Tenneco Inc.	TEN	NYSE
TGE	Tallgrass Energy, LP	TGE	NYSE
TGH	Textainer Group Holdings Limited	TGH	NYSE
TGNA	TEGNA, Inc.	TGNA	NYSE
TKC	Turkcell Lletisim Hizmetleri A.S.	TKC	NYSE
TKR	The Timken Company	TKR	NYSE
TM	Toyota Motor Corporation	TM	NYSE
TMV	Direxion Daily 20+ Year Treasury Bear 3X Shares	TMV	NYSE Arca
TNET	TriNet Group, Inc.	TNET	NYSE
TOO	Teekay Offshore Partners, L.P.	TOO	NYSE
TPC	Tutor Perini Corporation	TPC	NYSE
TPCO	Tribune Publishing Company	TPCO	NASDAQ
TPH	TRI Pointe Group, Inc.	TPH	NYSE
TRMB	Trimble, Inc.	TRMB	NASDAQ
TRP	TransCanada Corporation	TRP	NYSE
TS	Tenaris S.A.	TS	NYSE
TSEM	Tower Semiconductor Ltd.	TSEM	NASDAQ
TTNP	Titan Pharmaceuticals, Inc.	TTNP	NASDAQ
TTS	Tile Shop Holdings, Inc.	TTS	NASDAQ
TUP	Tupperware Brands Corporation	TUP	NYSE
TV	Grupo Televisa, S.A.B.	TV	NYSE
TVPT	Travelport Worldwide Limited	TVPT	NYSE
TWNK	Hostess Brands, Inc.	TWNK	NASDAQ
TWO	Two Harbors Investment Corp.	TWO	NYSE
TWOU	2u, Inc.	TWOU	NASDAQ
TX	Ternium S.A.	TX	NYSE
TXRH	Texas Roadhouse, Inc.	TXRH	NASDAQ
TYL	Tyler Technologies, Inc.	TYL	NYSE
UCTT	Ultra Clean Holdings, Inc.	UCTT	NASDAQ
UFS	Domtar Corporation	UFS	NYSE
UGA	United States Gasoline Fund, L.P.	UGA	NYSE Arca
UHS	Universal Health Services, Inc.	UHS	NYSE
UNVR	Univar, Inc.	UNVR	NYSE
URA	Global X Uranium ETF	URA	NYSE Arca



USAC	USA Compression Partners, L.P.	USAC	NYSE
USFD	US Foods Holding Corp.	USFD	NYSE
UTHR	United Therapeutics Corporation	UTHR	NASDAQ
UUUU	Energy Fuels, Inc.	UUUU	AMEX
UVE	Universal Insurance Holdings, Inc.	UVE	NYSE
UVV	Universal Corporation	UVV	NYSE
UWM	ProShares Ultra Russell2000	UWM	NYSE Arca
UYG	ProShares Ultra Financials	UYG	NYSE Arca
VAR	Varian Medical Systems, Inc.	VAR	NYSE
VCEL	Vericel Corporation	VCEL	NASDAQ
VEA	Vanguard FTSE Developed Markets Index Fund ETF Shares	VEA	NYSE Arca
VECO	Veeco Instruments, Inc.	VECO	NASDAQ
VER	VEREIT, Inc.	VER	NYSE
VG	Vonage Holdings Corp.	VG	NYSE
VIG	Vanguard Dividend Appreciation Index Fund ETF Shares	VIG	NYSE Arca
VIXM	ProShares VIX Mid-Term Futures ETF	VIXM	NYSE Arca
VJET	voxeljet A.G.	VJET	NYSE
VMI	Valmont Industries, Inc.	VMI	NYSE
VNDA	Vanda Pharmaceuticals, Inc.	VNDA	NASDAQ
VNO	Vornado Realty Trust	VNO	NYSE
VNTR	Venator Materials PLC	VNTR	NYSE
VOYA	Voya Financial, Inc.	VOYA	NYSE
VRA	Vera Bradley, Inc.	VRA	NASDAQ
VRAY	ViewRay, Inc.	VRAY	NASDAQ
VRNS	Varonis Systems, Inc.	VRNS	NASDAQ
VRNT	Verint Systems, Inc.	VRNT	NASDAQ
VRSK	Verisk Analytics, Inc.	VRSK	NASDAQ
VSI	Vitamin Shoppe, Inc.	VSI	NYSE
VSLR	Vivint Solar, Inc.	VSLR	NYSE
VT	Vanguard Total World Stock Index Fund ETF Shares	VT	NYSE Arca
VTI	Vanguard Total Stock Market Index Fund ETF Shares	VTI	NYSE Arca
VVV	Valvoline, Inc.	VVV	NYSE
WAGE	WageWorks, Inc.	WAGE	NYSE
WAL	Western Alliance Bancorporation	WAL	NYSE
WAT	Waters Corporation	WAT	NYSE
WCN	Waste Connections, Inc.	WCN	NYSE
WDR	Waddell & Reed Financial, Inc.	WDR	NYSE
WEAT	Teucrium Wheat	WEAT	NYSE Arca
WEC	WEC Energy Group, Inc.	WEC	NYSE
WERN	Werner Enterprises, Inc.	WERN	NASDAQ
WETF	WisdomTree Investments, Inc.	WETF	NASDAQ
WH	Wyndham Hotels & Resorts, Inc.	WH	NYSE



WIFI	Boingo Wireless, Inc.	WIFI	NASDAQ
WK	Workiva, Inc.	WK	NYSE
WLH	William Lyon Homes	WLH	NYSE
WMGI	Wright Medical Group N.V.	WMGI	NASDAQ
WOR	Worthington Industries, Inc.	WOR	NYSE
WPC	W.P. Carey, Inc.	WPC	NYSE
WPRT	Westport Fuel Systems, Inc.	WPRT	NASDAQ
WTTR	Select Energy Services, Inc.	WTTR	NYSE
WYND	Wyndham Destinations, Inc.	WYND	NYSE
XEL	Xcel Energy, Inc.	XEL	NASDAQ
XENT	Intersect ENT, Inc.	XENT	NASDAQ
XES	SPDR S&P Oil & Gas Equipment & Services ETF	XES	NYSE Arca
XIN	Xinyuan Real Estate Co., Ltd.	XIN	NYSE
XLRN	Accelaron Pharma, Inc.	XLRN	NASDAQ
XNET	Xunlei Limited	XNET	NASDAQ
XONE	The ExOne Company	XONE	NASDAQ
XYL	Xylem, Inc.	XYL	NYSE
YANG	Direxion Daily FTSE China Bear 3X Shares	YANG	NYSE Arca
ZBH	Zimmer Biomet Holdings, Inc.	ZBH	NYSE
ZBRA	Zebra Technologies Corporation	ZBRA	NASDAQ
ZTO	ZTO Express (Cayman), Inc.	ZTO	NYSE
ZUMZ	Zumiez, Inc.	ZUMZ	NASDAQ
ZYNE	Zynerba Pharmaceuticals, Inc.	ZYNE	NASDAQ

Regulatory questions may be directed to the MIAX Emerald Regulatory Department at Regulatory@MIAXOptions.com or (609) 897-7309.