程式碼

- https://github.com/BlockchainTradeAnalysis/Robot_Portfolio
- restful_api.R：抓data
- Indicator_ALL.R：建立指標
- Module_KD.R、Module_MACD.R、Module_MTM.R：建立市場模型
- Return_Rate.R：計算報酬率

歷史資料

- 幣安Restful API
- https://api.binance.com/api/v1/klines?
- symbol=BTCUSDT
- interval=5m
- limit=288
- startTime=Unix timestamp(2017 8 16 23:00:00 EST)
- 2017/8/16-2019/1/5 est 上面要做508次迴圈

建立指標

- KD: N=9
- MACD:(9,12,26)
- MTM:N=10(EMA also N=10)

資料分析方式

- 每筆資料長度5分鐘
- 去頭，去尾，留中間14萬筆資料，分成14個區間分析。1個區間1萬筆資料(34.72天)。
- 平均一個區間可以有10至20左右進場個數
- 第1個區間起點:2017-08-17 06:15:00 EST (88)
- 第14個區間終點：2018-12-15 19:50:00 EST (140087)

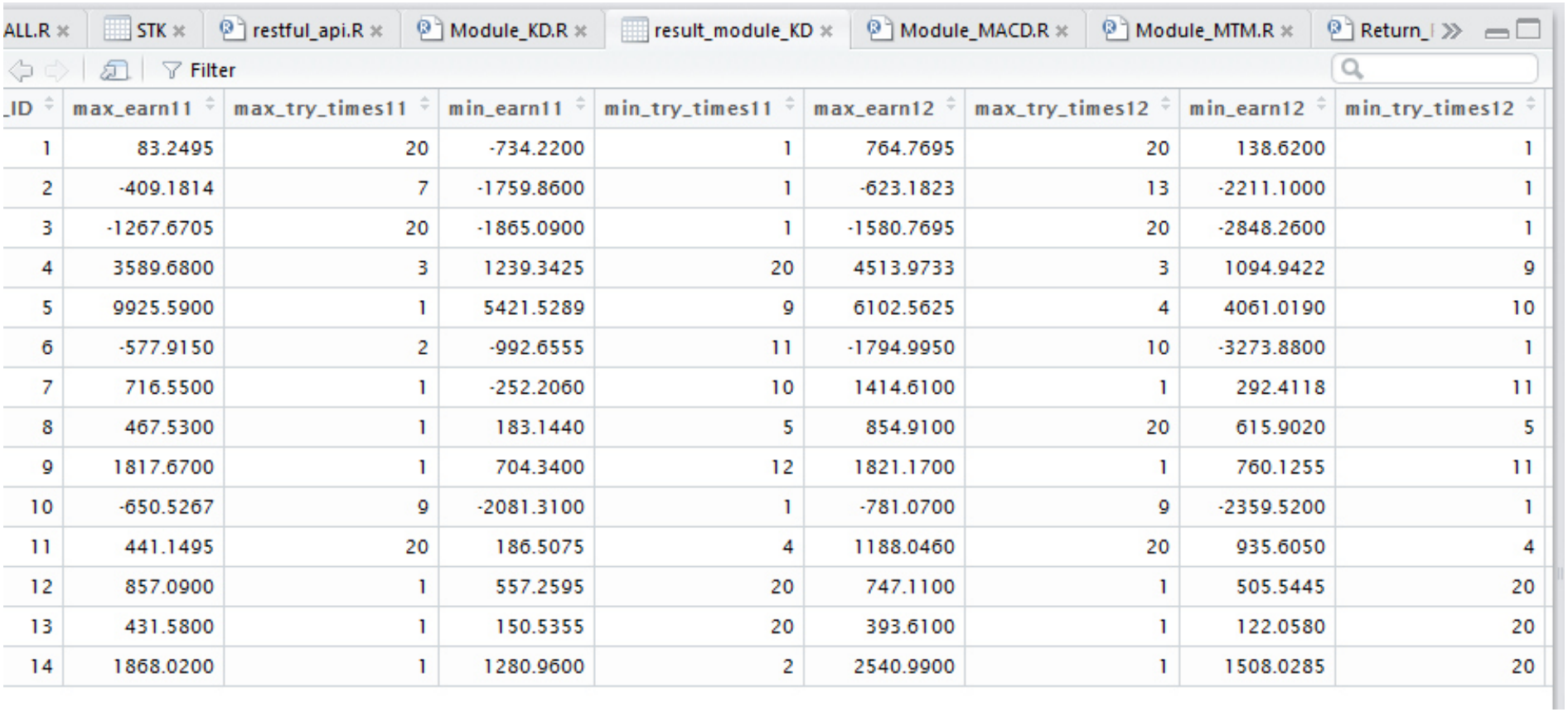
尋找買賣點

- 買點和賣點是1對1
- KD:買K>D且K<30;賣K<D且K>80
- MACD:買(DIF-MACD)負變正且DIF(i)/DIF(i-1)>1.73#60度;賣(DIF-MACD)正變負且DIF(i)/DIF(i-1)>1.19#50度
- MTM:買m_MTM>0.005且a_MTM(i)/a_MTM(i-1)>1.73#60度;賣m_MTM<-0.005且a_MTM(i)/a_MTM(i-1)>1.19#50度

風險控制

- take_profit=c(1.1,1.2,1.3);stop_loss=c(0.95,0.9,0.85)
- 進場分批策略(1次至20次(try_times))，最佳分批次數(Max)和最差分批次數(Min)。

1個quantity在某個(1:14)時期總共可以賺多少



ALL.R | STK | restful_api.R | Module_KD.R | result_module_KD | Module_MACD.R | Module_MTM.R | Return_

Filter

_ID	max_earn11	max_try_times11	min_earn11	min_try_times11	max_earn12	max_try_times12	min_earn12	min_try_times12
1	83.2495	20	-734.2200	1	764.7695	20	138.6200	1
2	-409.1814	7	-1759.8600	1	-623.1823	13	-2211.1000	1
3	-1267.6705	20	-1865.0900	1	-1580.7695	20	-2848.2600	1
4	3589.6800	3	1239.3425	20	4513.9733	3	1094.9422	9
5	9925.5900	1	5421.5289	9	6102.5625	4	4061.0190	10
6	-577.9150	2	-992.6555	11	-1794.9950	10	-3273.8800	1
7	716.5500	1	-252.2060	10	1414.6100	1	292.4118	11
8	467.5300	1	183.1440	5	854.9100	20	615.9020	5
9	1817.6700	1	704.3400	12	1821.1700	1	760.1255	11
10	-650.5267	9	-2081.3100	1	-781.0700	9	-2359.5200	1
11	441.1495	20	186.5075	4	1188.0460	20	935.6050	4
12	857.0900	1	557.2595	20	747.1100	1	505.5445	20
13	431.5800	1	150.5355	20	393.6100	1	122.0580	20
14	1868.0200	1	1280.9600	2	2540.9900	1	1508.0285	20

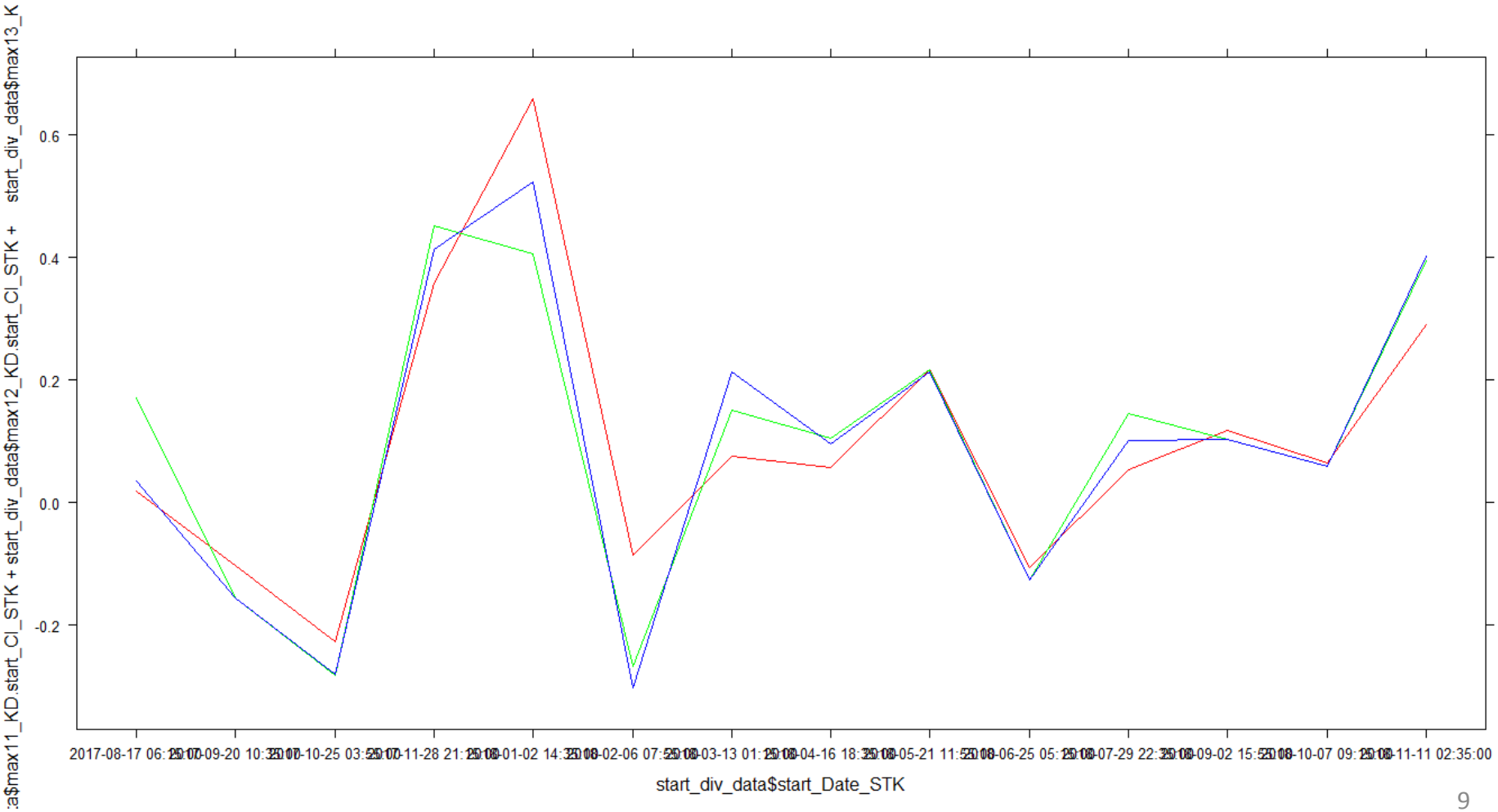
KD MACD MTM /start_CL

restful_api.R | Module_KD.R | result_module_KD | start_div_data | Orig_data | Module_MACD.R | Module_MTM.R | Return_Rate.

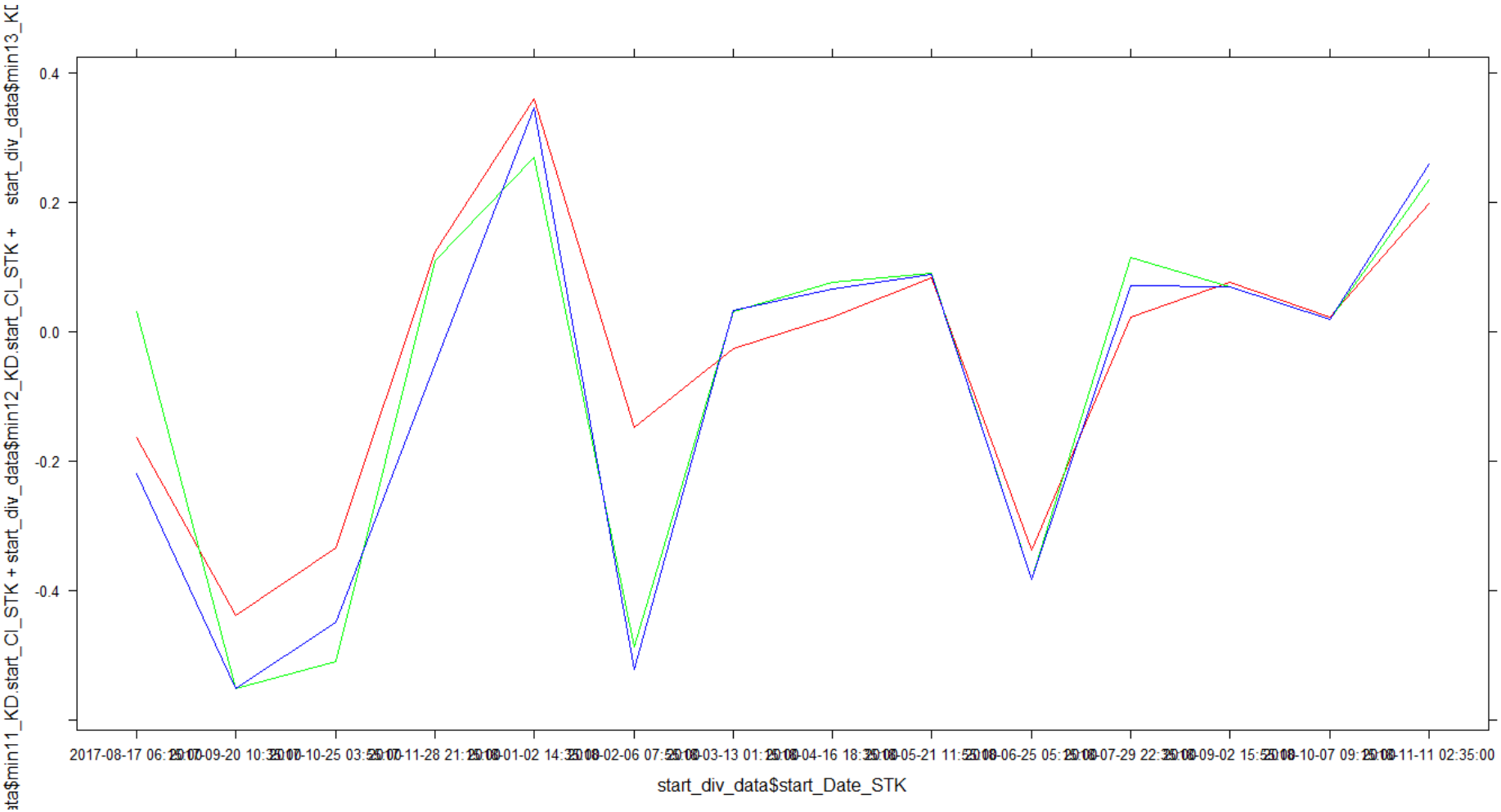
Filter

	start_Date_STK	start_Cl_STK	mean_Cl_STK	max11_KD	max12_KD	max13_KD	max11_MACD	max12_MACD	max13_MACD	max11_MTM
1	2017-08-17 06:15:00	4474.80	4195.594	83.2495	764.7695	161.4385	1372.5700	1836.0000	2463.7800	935.3129
2	2017-09-20 10:35:00	4008.00	4764.036	-409.1814	-623.1823	-623.1823	577.9874	617.2467	617.2467	424.8520
3	2017-10-25 03:55:00	5593.18	7242.695	-1267.6705	-1580.7695	-1564.0695	-1112.1645	-968.2245	-968.2245	-1116.7615
4	2017-11-28 21:15:00	10005.98	14361.272	3589.6800	4513.9733	4137.6400	2349.5610	2470.6220	3240.9180	-851.2375
5	2018-01-02 14:35:00	15056.01	12109.035	9925.5900	6102.5625	7891.0125	2355.6447	2239.4790	-691.4895	5319.5700
6	2018-02-06 07:55:00	6719.07	9855.574	-577.9150	-1794.9950	-2029.9550	2024.2700	1743.0500	1743.0500	4538.8908
7	2018-03-13 01:15:00	9370.00	7752.888	716.5500	1414.6100	2004.5300	615.9086	695.7171	695.7171	2903.7600
8	2018-04-16 18:35:00	8061.31	8868.613	467.5300	854.9100	769.7100	928.3833	928.3833	928.3833	1419.5100
9	2018-05-21 11:55:00	8383.98	7111.019	1817.6700	1821.1700	1791.4900	761.3300	761.3300	761.3300	1902.8700
10	2018-06-25 05:15:00	6178.01	6898.159	-650.5267	-781.0700	-781.0700	-500.9585	-500.9585	-500.9585	28.8300
11	2018-07-29 22:35:00	8207.02	6785.301	441.1495	1188.0460	838.8160	137.4500	137.4500	137.4500	282.7300
12	2018-09-02 15:55:00	7284.13	6562.521	857.0900	747.1100	747.1100	600.5000	541.5100	541.5100	573.7000
13	2018-10-07 09:15:00	6577.89	6514.032	431.5800	393.6100	393.6100	11.9930	11.9930	11.9930	-129.6700
14	2018-11-11 02:35:00	6440.01	4394.321	1868.0200	2540.9900	2593.0400	697.9400	877.9300	847.5900	1638.8500

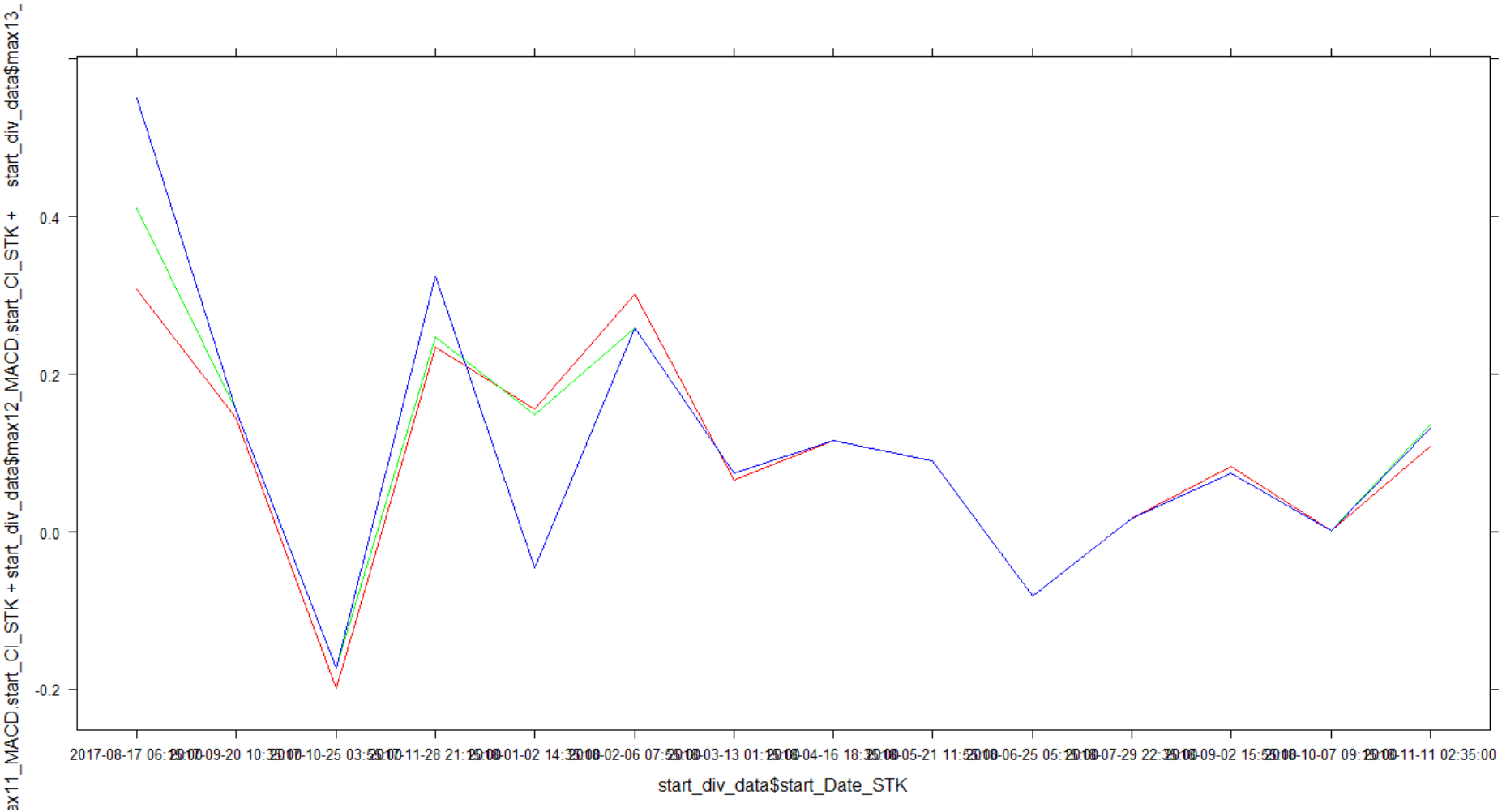
Max:KD11,KD12,KD13(R,G,B)



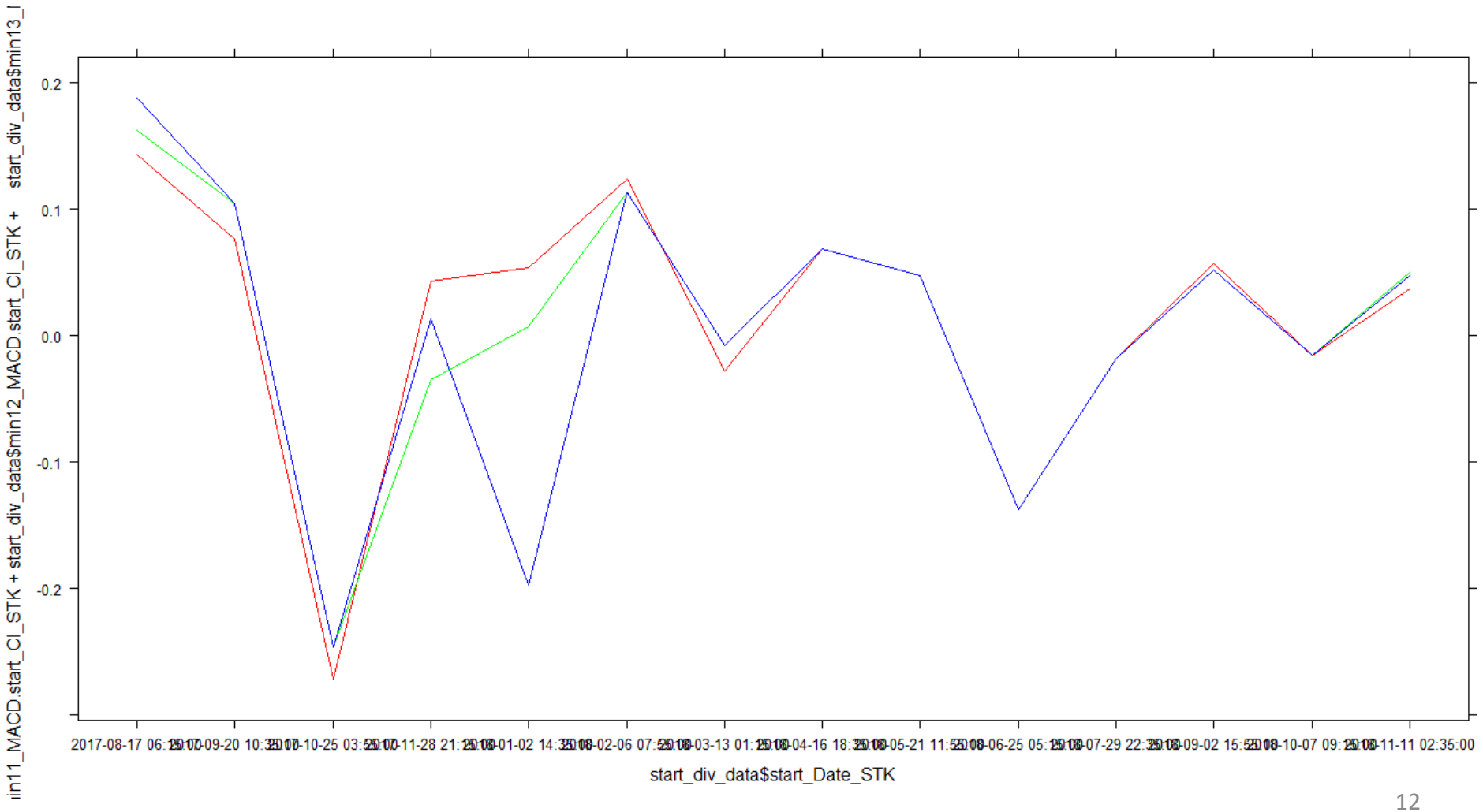
Min:KD11,KD12,KD13(R,G,B)



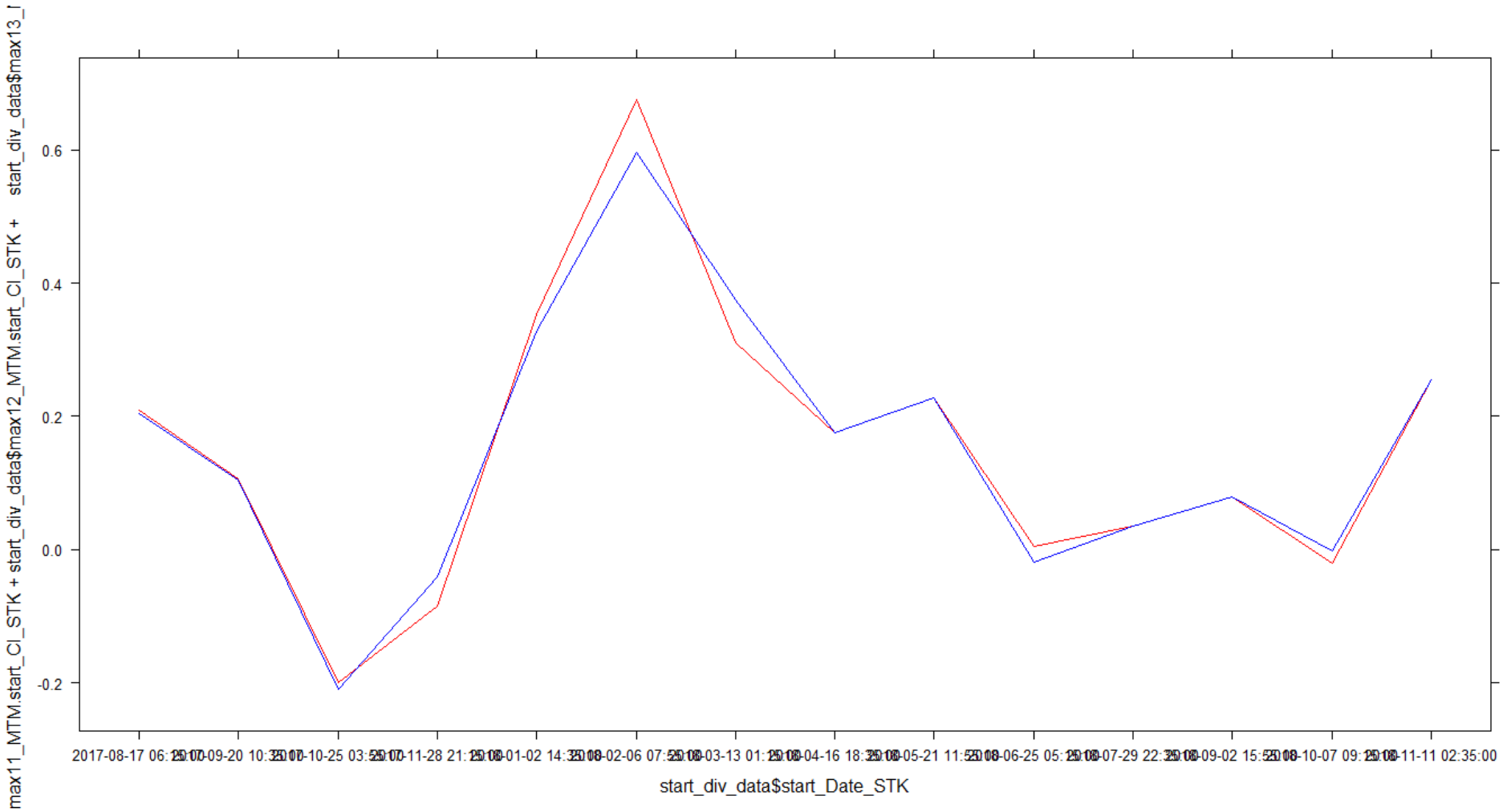
Max:MACD11,MACD12,MACD13(R,G,B)



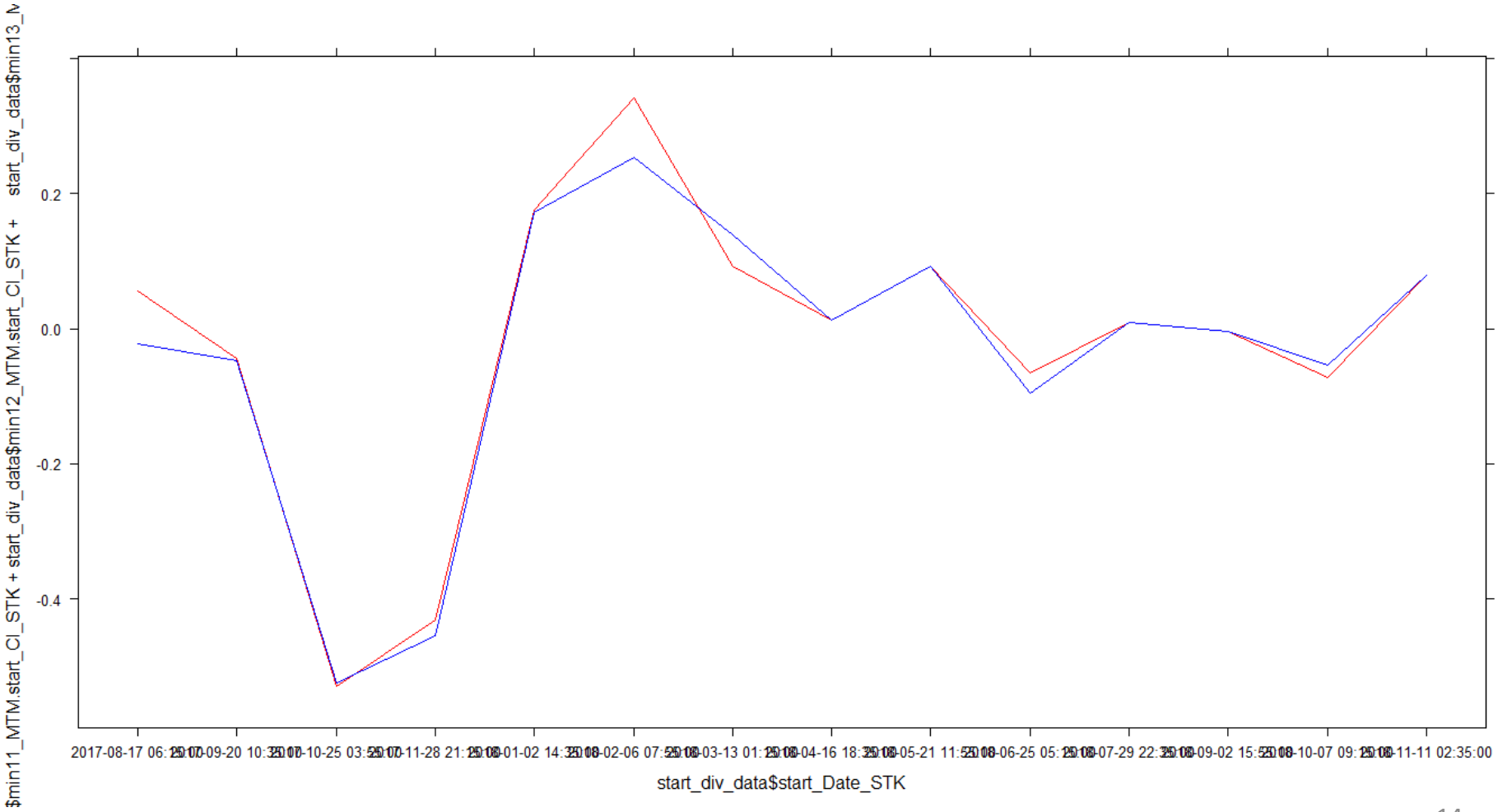
Min:MACD11,MACD12,MACD13(R,G,B)



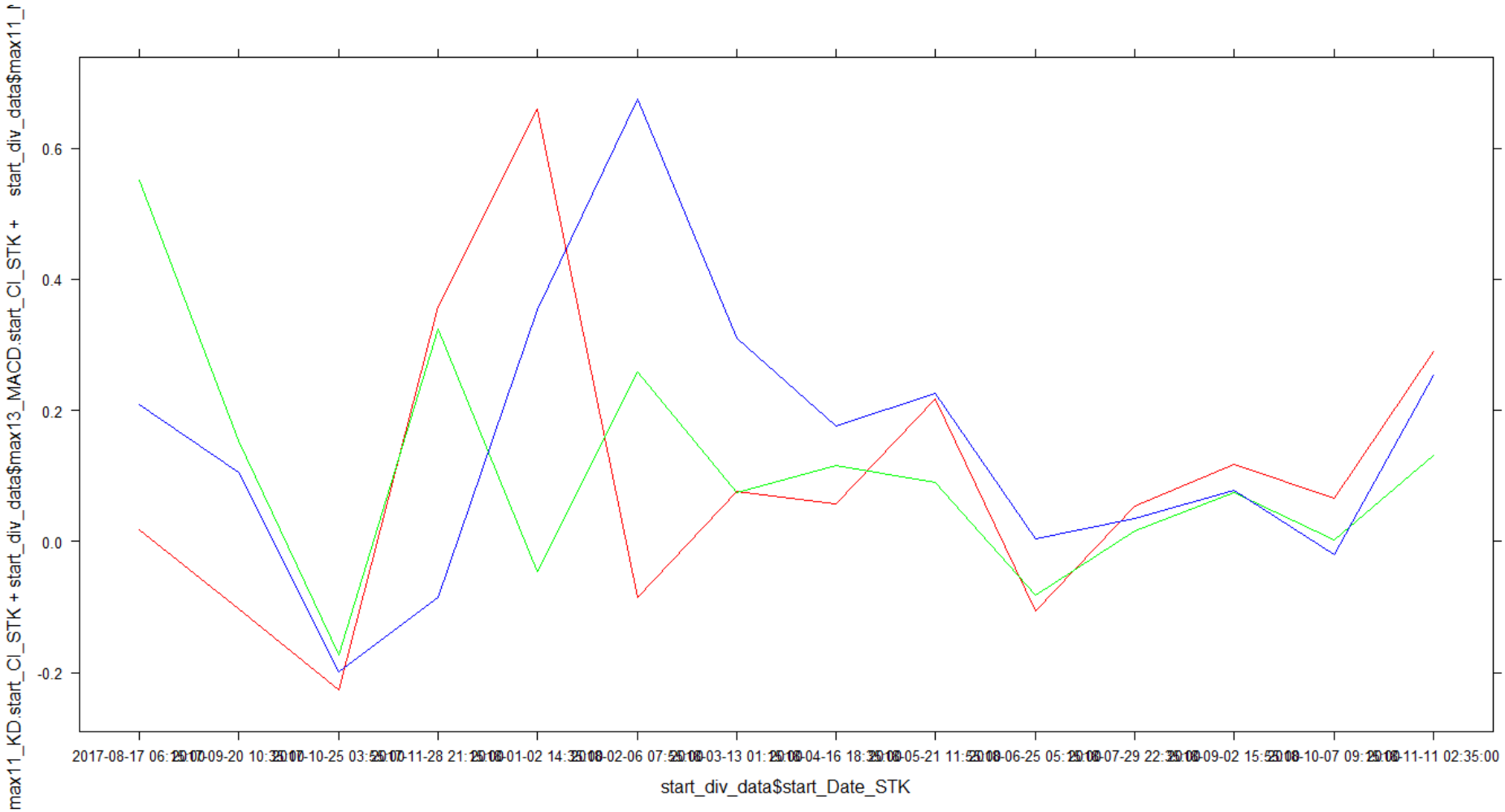
Max:MTM11,MTM12,MTM13(R,G,B)
G,B重疊



Min:MTM11,MTM12,MTM13(R,G,B)
G,B重疊



Max:KD11,MACD13,MTM11



Min:KD13,MACD11,MTM13