Figure 1a

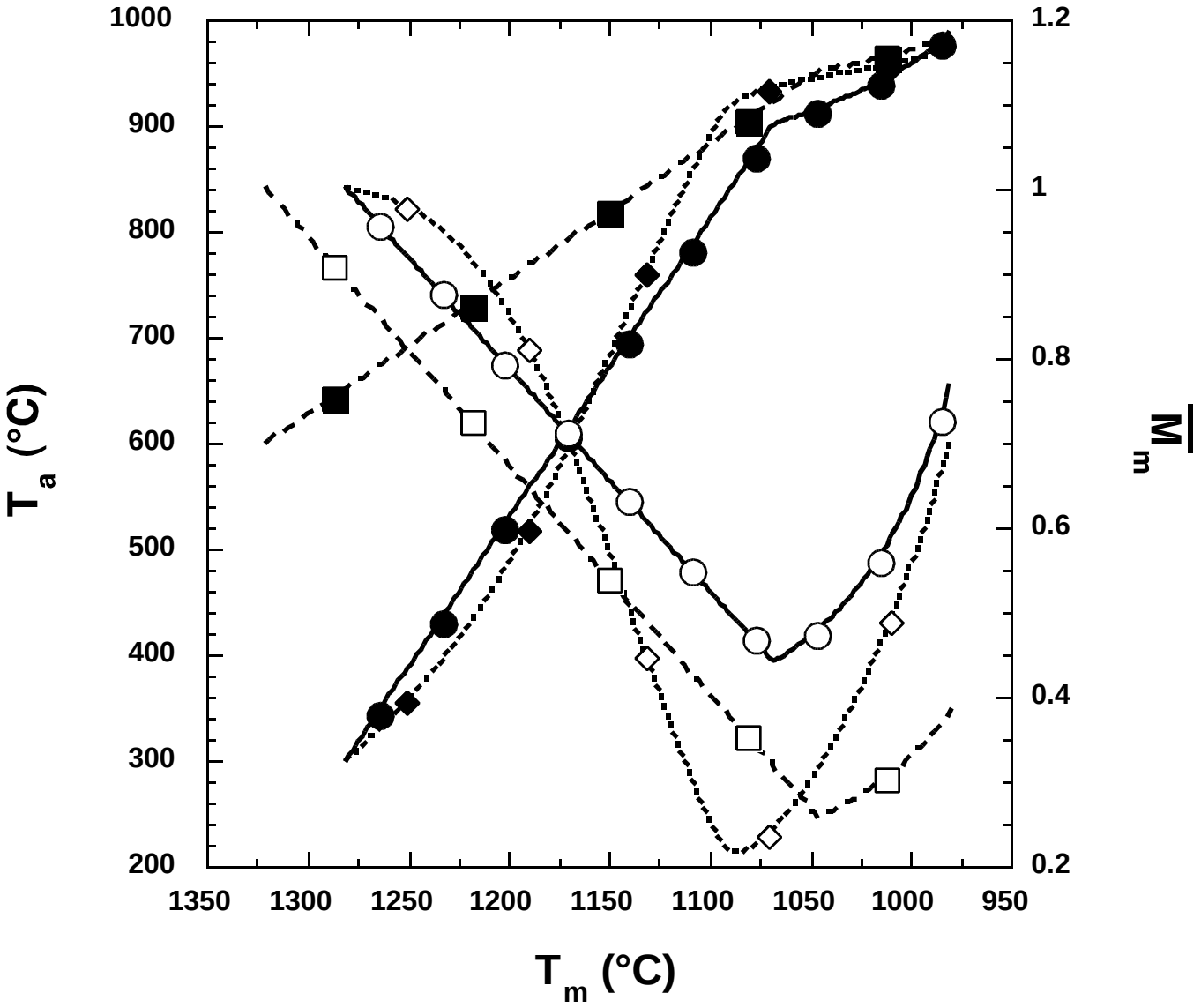

1000
900
800
700
600
500
400
300
200
1.2
1
0.8
0.6
0.4
0.2
1350
1300
1250
1200
1150
1100
1050
1000
950
T a (°C)
T m (°C)
M m

Figure 1b

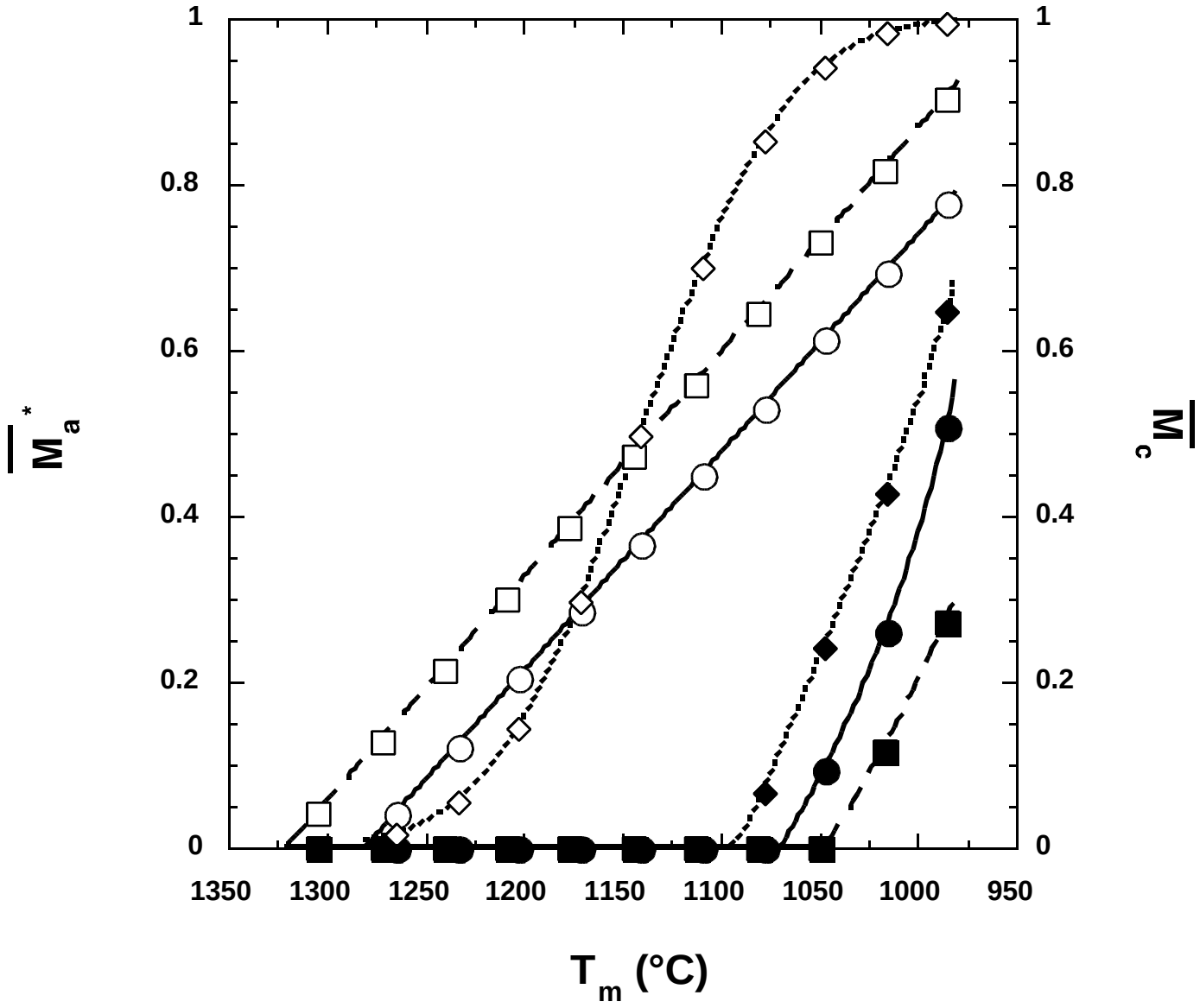

1
0.8
0.6
0.4
0.2
0
1350
1300
1250
1200
1150
1100
1050
1000
950
T m (°C)
M a *
M c

Figure 1c

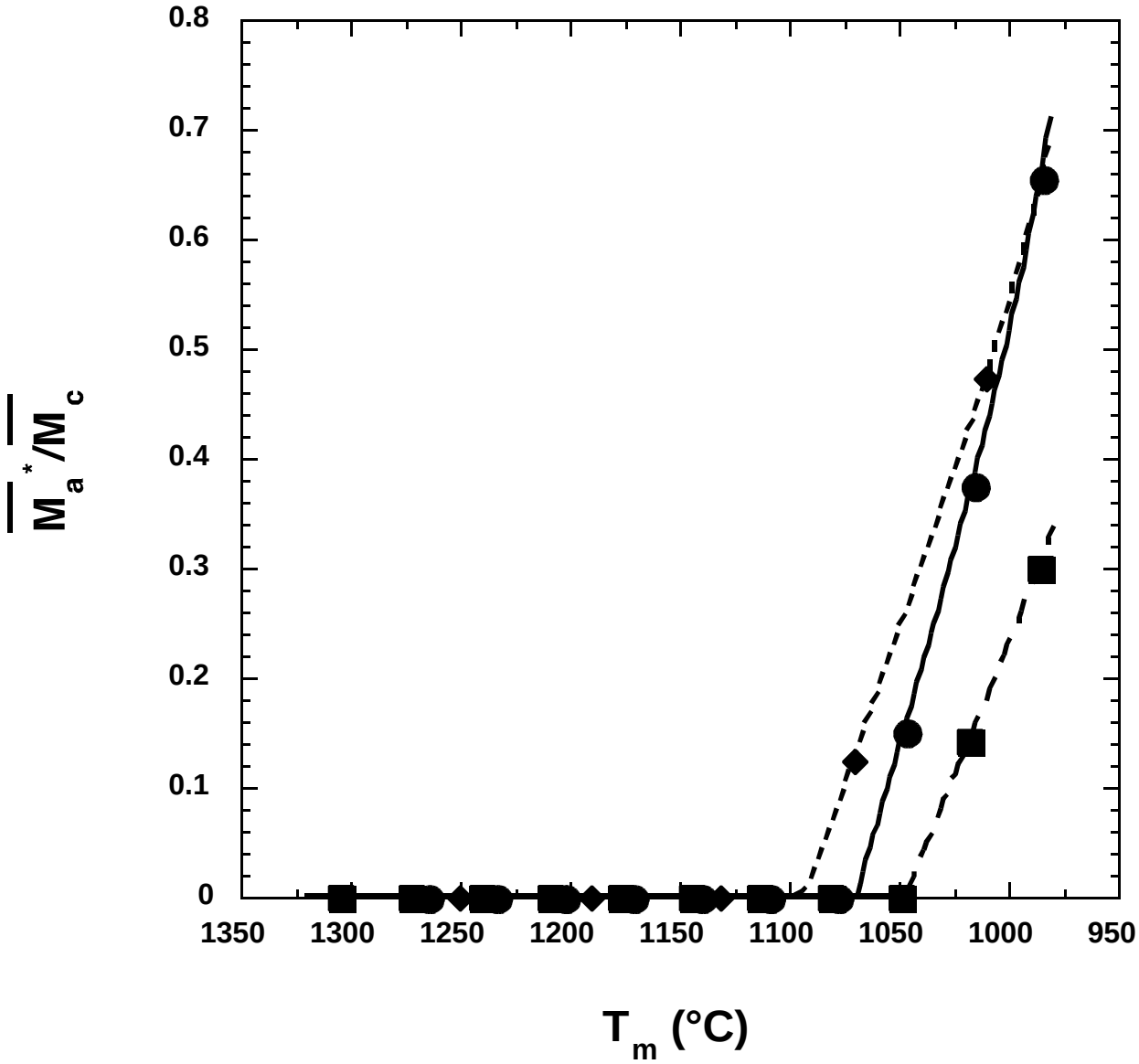

0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1350
1300
1250
1200
1150
1100
1050
1000
950
$\overline{M_a^*}/\overline{M_c}$
T_m (°C)

Figure 2

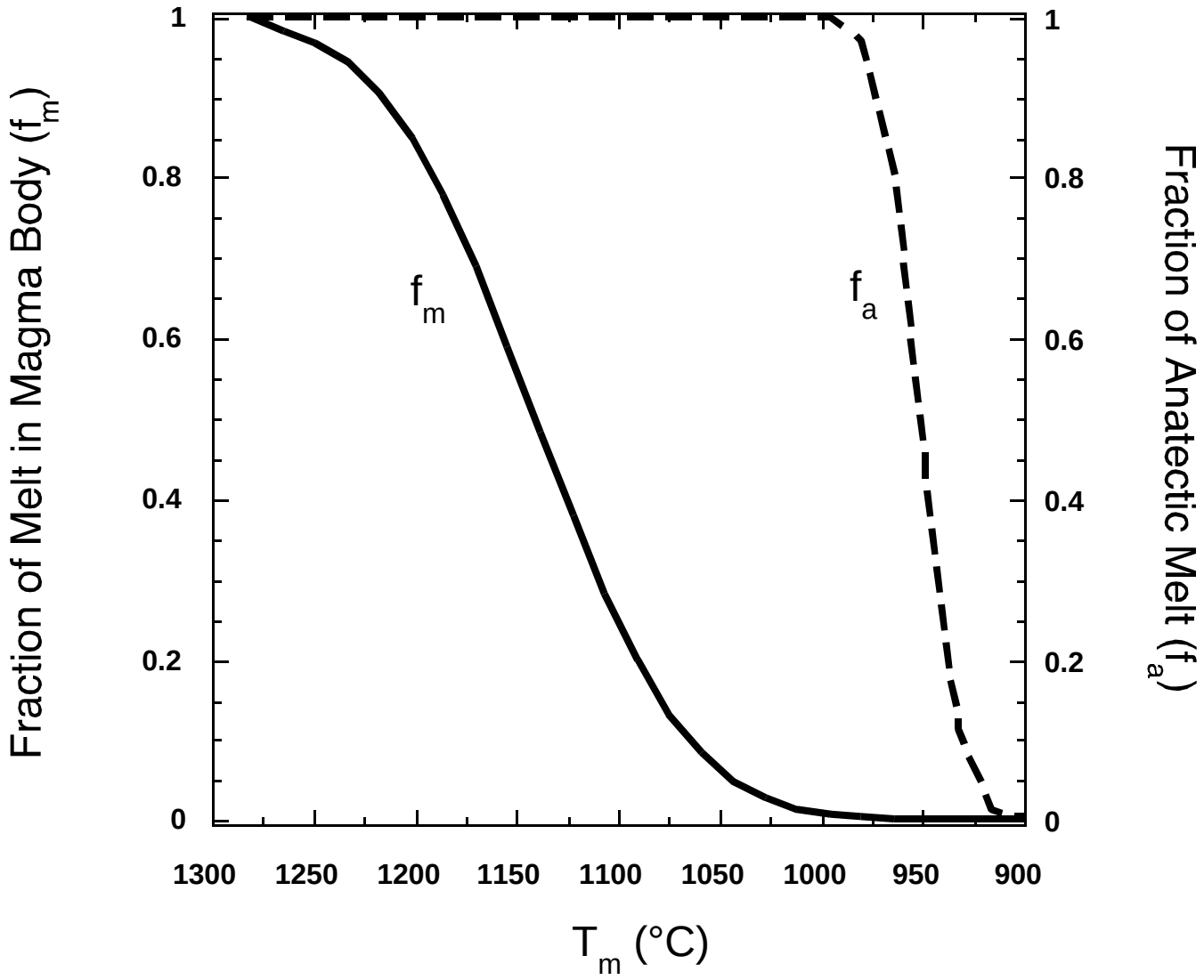

Fraction of Melt in Magma Body (f_m)
Fraction of Anatectic Melt (f_a)
f_m
f_a
1
0.8
0.6
0.4
0.2
0
1300
1250
1200
1150
1100
1050
1000
950
900
T_m (°C)

Figure 3a

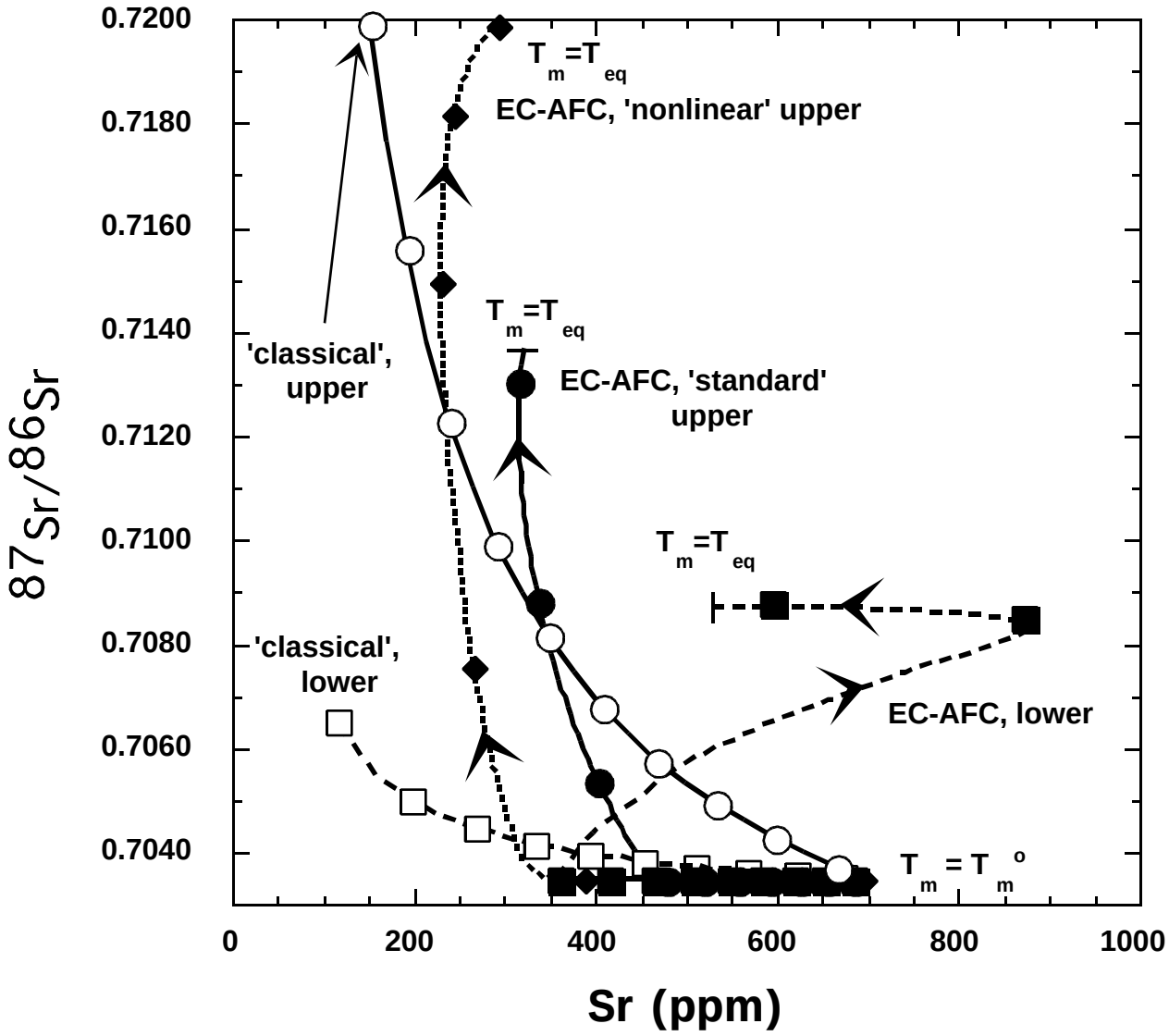

0.7200
0.7180
0.7160
0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
87Sr/86Sr
0
200
400
600
800
1000
Sr (ppm)
Tm=Teq
EC-AFC, 'nonlinear' upper
Tm=Teq
'classical', upper
EC-AFC, 'standard' upper
Tm=Teq
'classical', lower
EC-AFC, lower
Tm = Tmo

Figure 3b

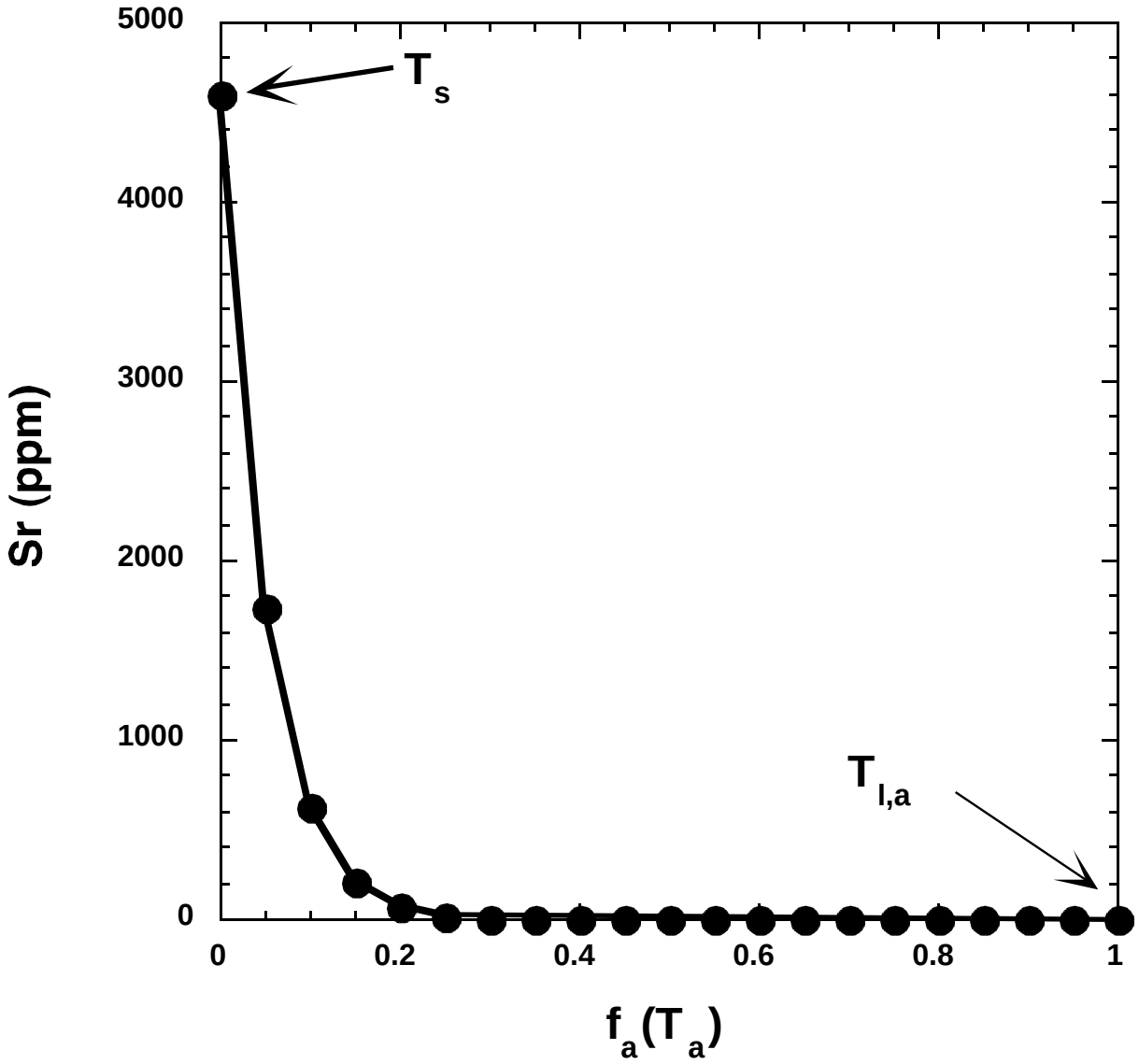


Figure 4a

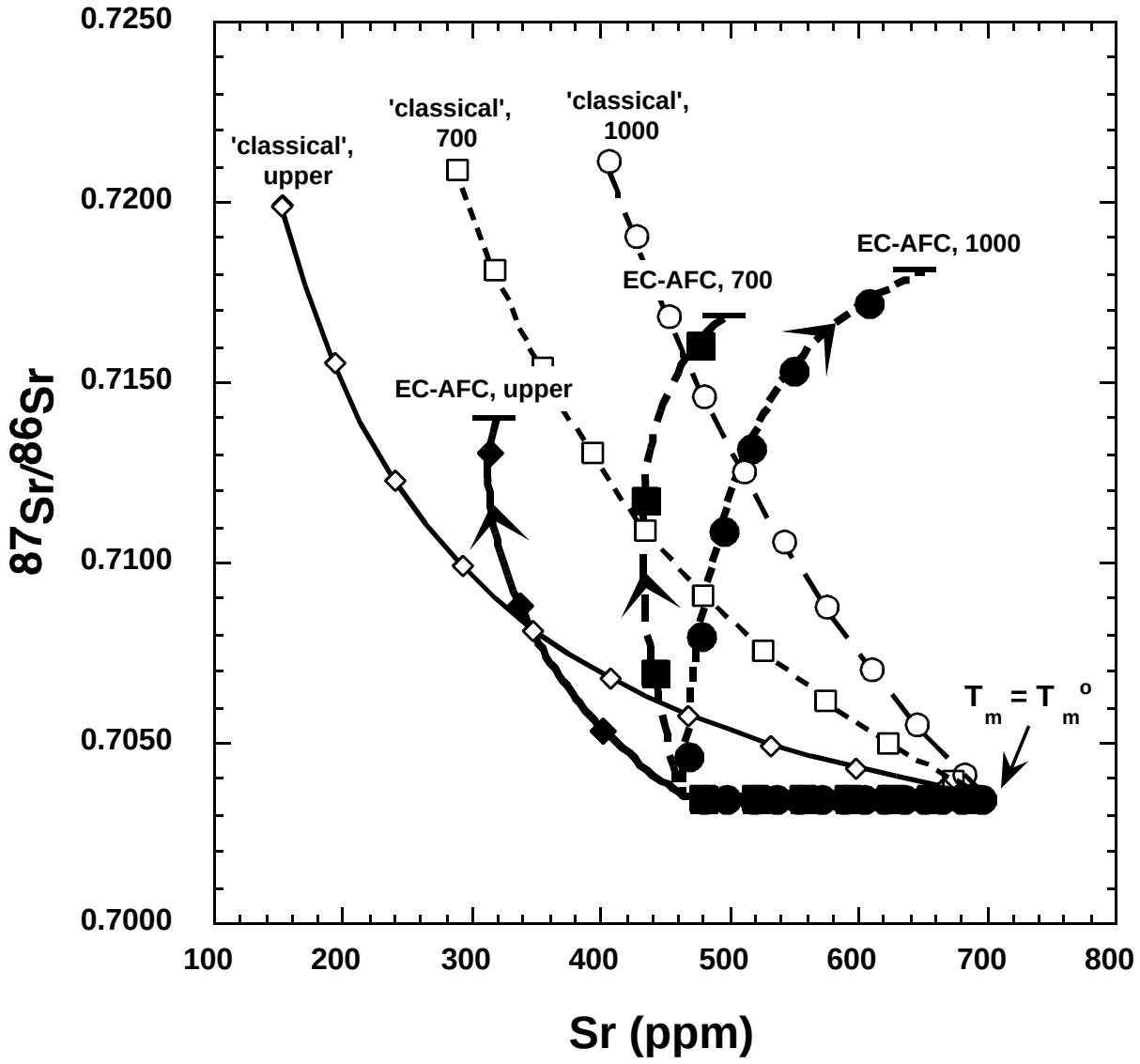

0.7250
0.7200
0.7150
0.7100
0.7050
0.7000
87Sr/86Sr
100
200
300
400
500
600
700
800
Sr (ppm)
'classical', upper
'classical', 700
'classical', 1000
EC-AFC, upper
EC-AFC, 700
EC-AFC, 1000
Tm = Tm o

Figure 4b

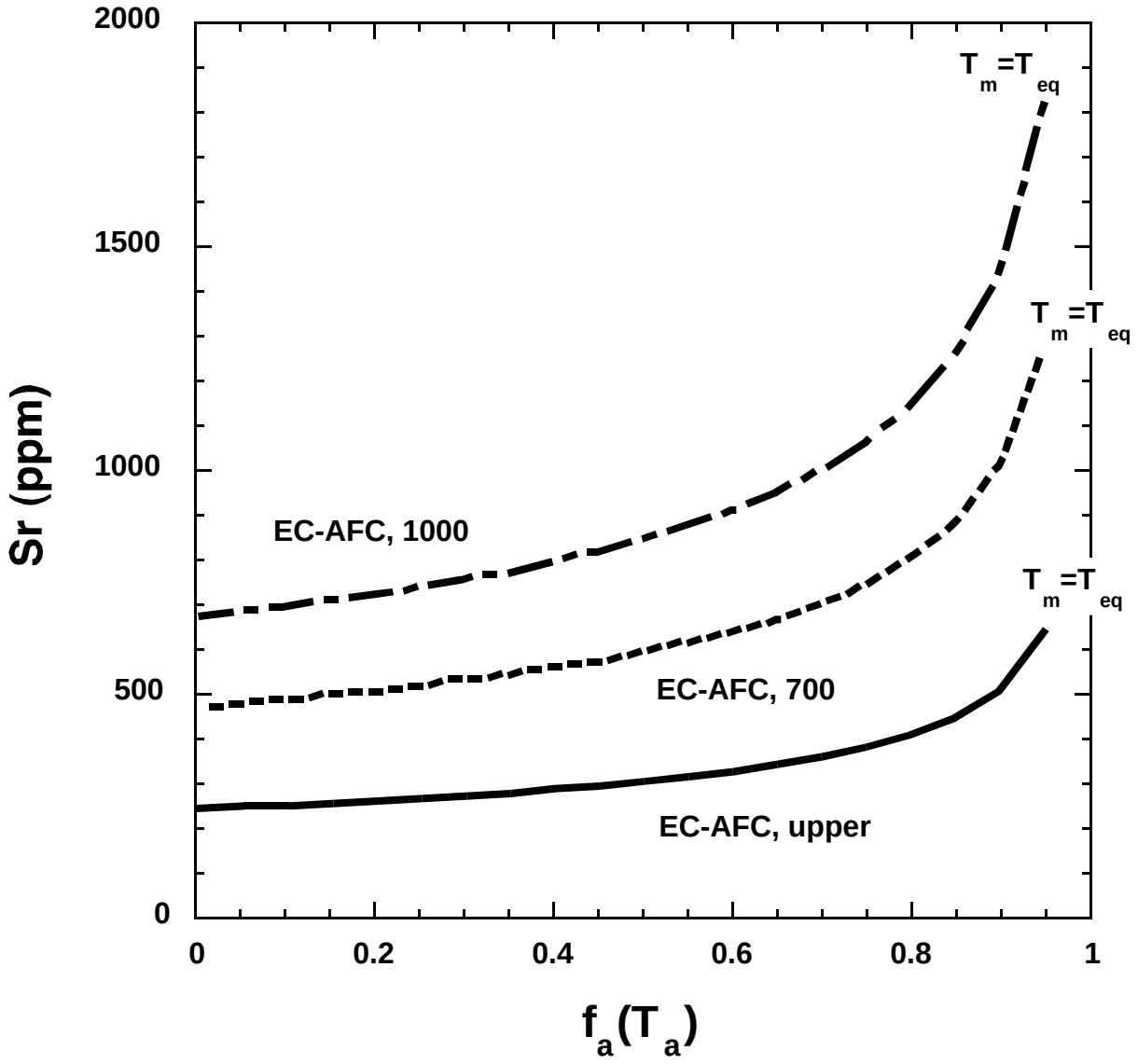

2000
1500
1000
500
0
Sr (ppm)
0
0.2
0.4
0.6
0.8
1
$f_a(T_a)$
$T_m=T_{eq}$
$T_m=T_{eq}$
$T_m=T_{eq}$
EC-AFC, 1000
EC-AFC, 700
EC-AFC, upper

Figure 5

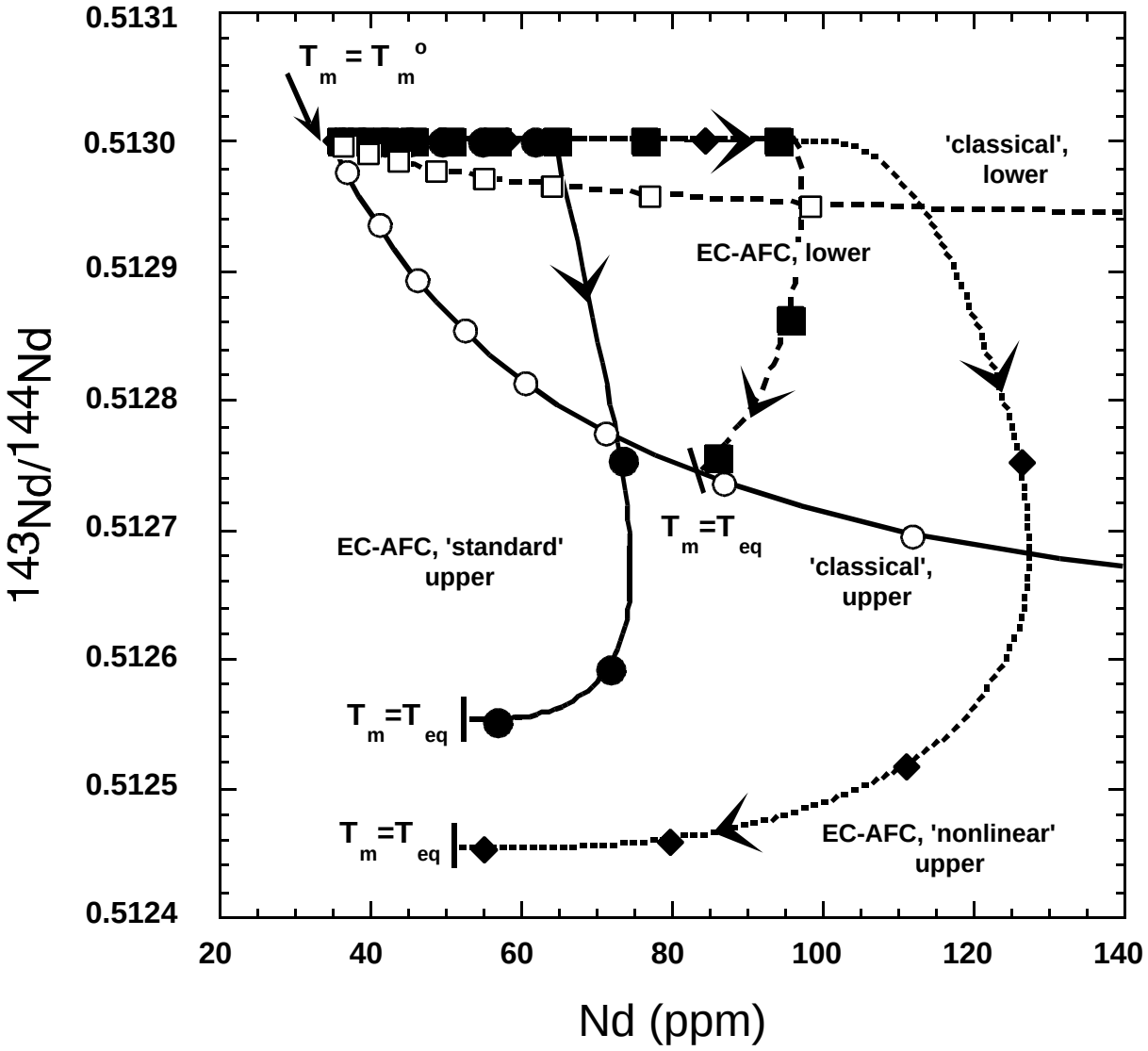

0.5131
0.5130
0.5129
0.5128
0.5127
0.5126
0.5125
0.5124
143Nd/144Nd
20
40
60
80
100
120
140
Nd (ppm)
Tm = Tm°
'classical', lower
EC-AFC, lower
Tm=Teq
'classical', upper
EC-AFC, 'standard' upper
Tm=Teq
Tm=Teq
EC-AFC, 'nonlinear' upper

Figure 6a

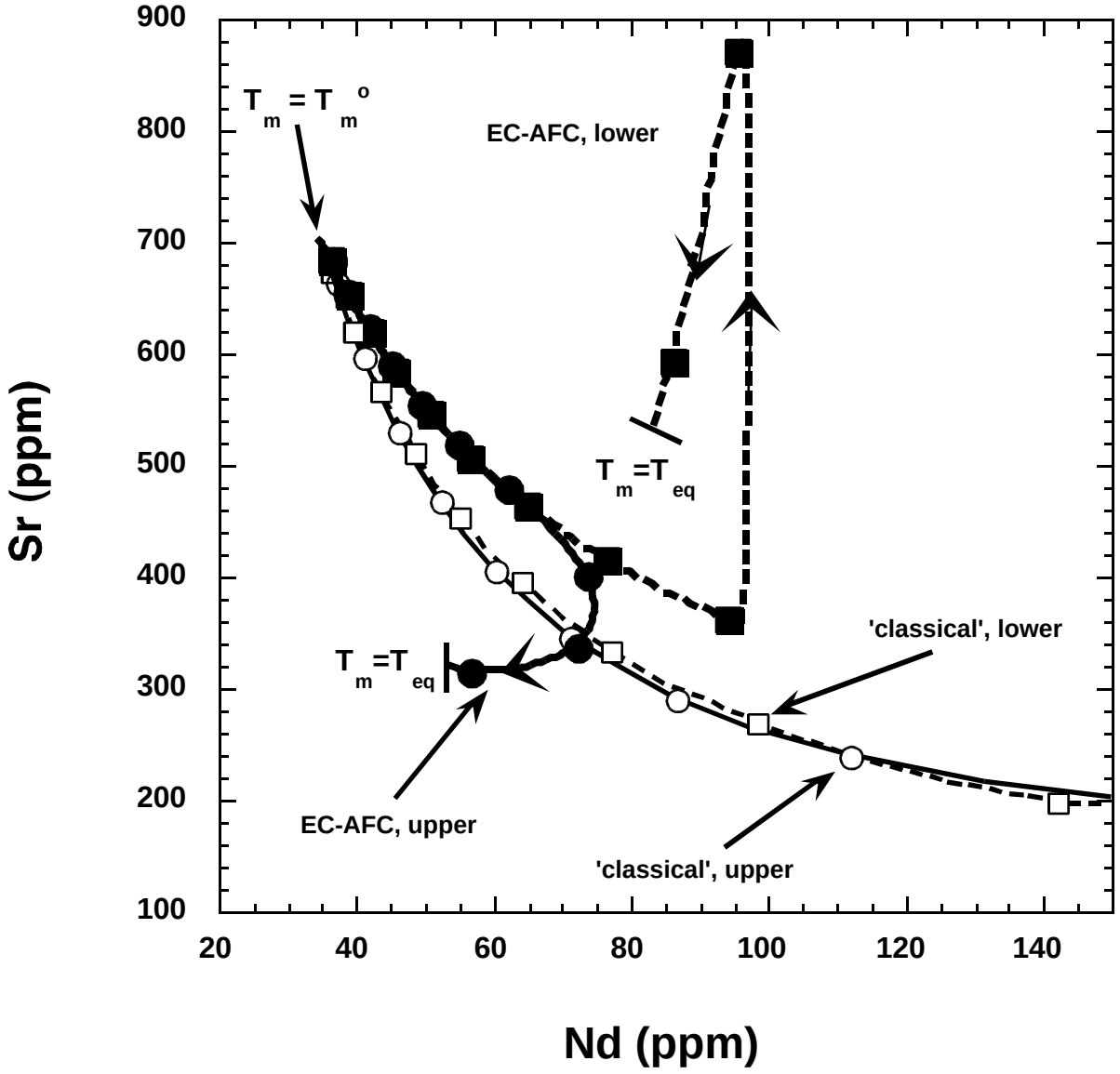

900
800
700
600
500
400
300
200
100
20
40
60
80
100
120
140
Sr (ppm)
Nd (ppm)
T m = T m o
EC-AFC, lower
T m =T eq
T m =T eq
'classical', lower
EC-AFC, upper
'classical', upper

Figure 6b

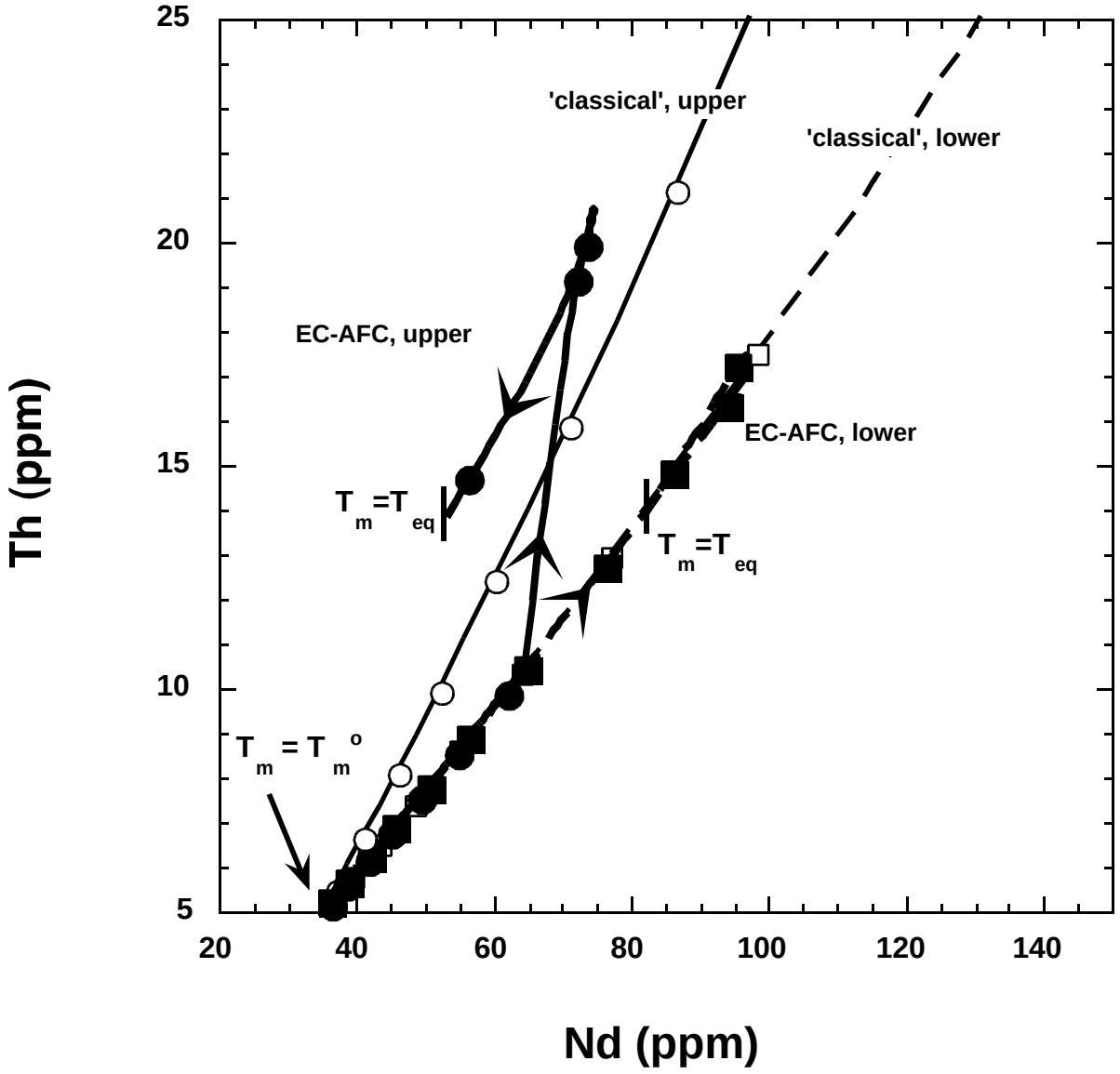

25
20
15
10
5
20
40
60
80
100
120
140
Th (ppm)
Nd (ppm)
'classical', upper
'classical', lower
EC-AFC, upper
EC-AFC, lower
T m =T eq
T m =T eq
T m = T m o

Figure 7a

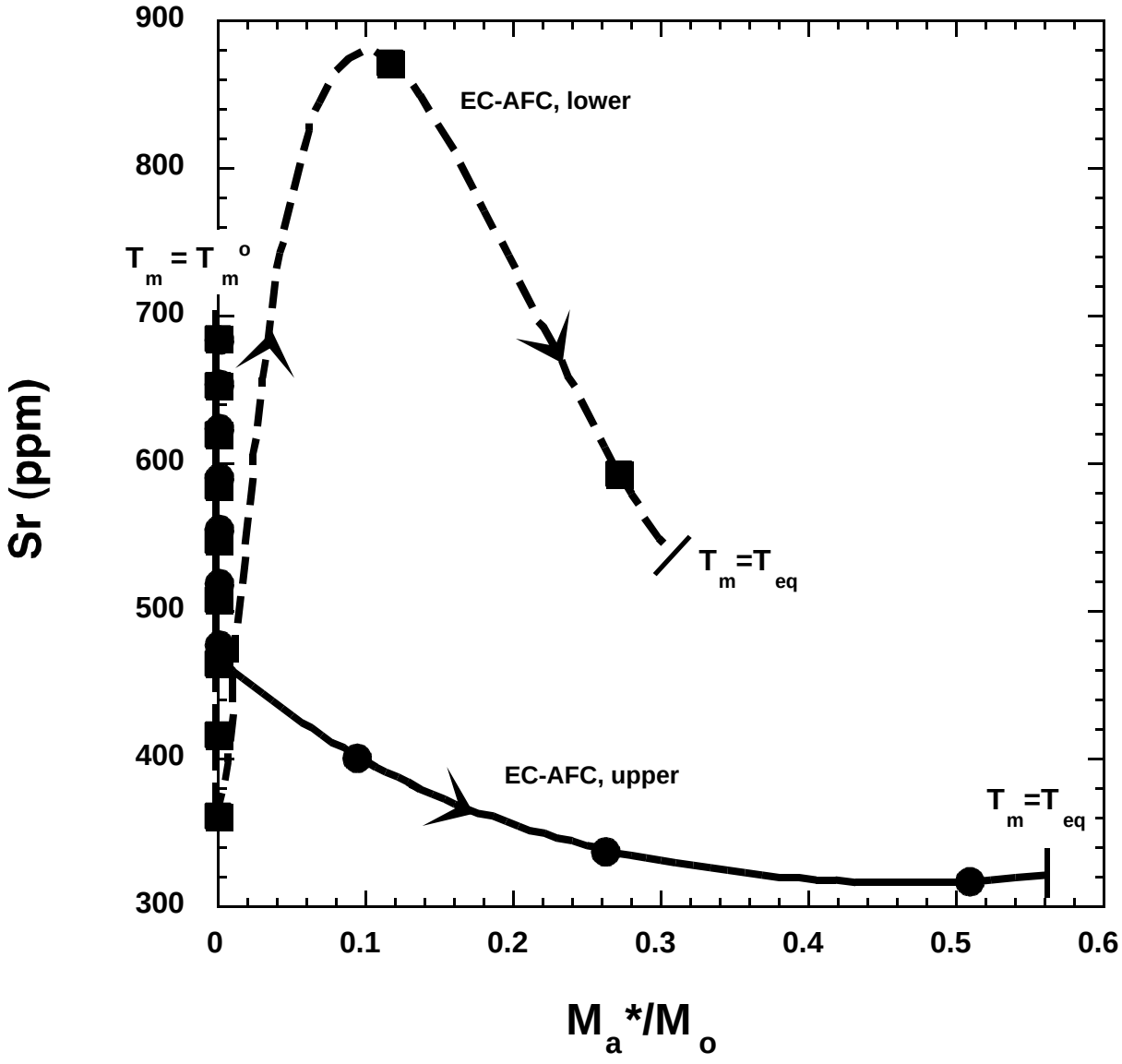

900
800
700
600
500
400
300
Sr (ppm)
0
0.1
0.2
0.3
0.4
0.5
0.6
M_a*/M_o
T_m = T_m^o
EC-AFC, lower
T_m=T_eq
EC-AFC, upper
T_m=T_eq

Figure 7b

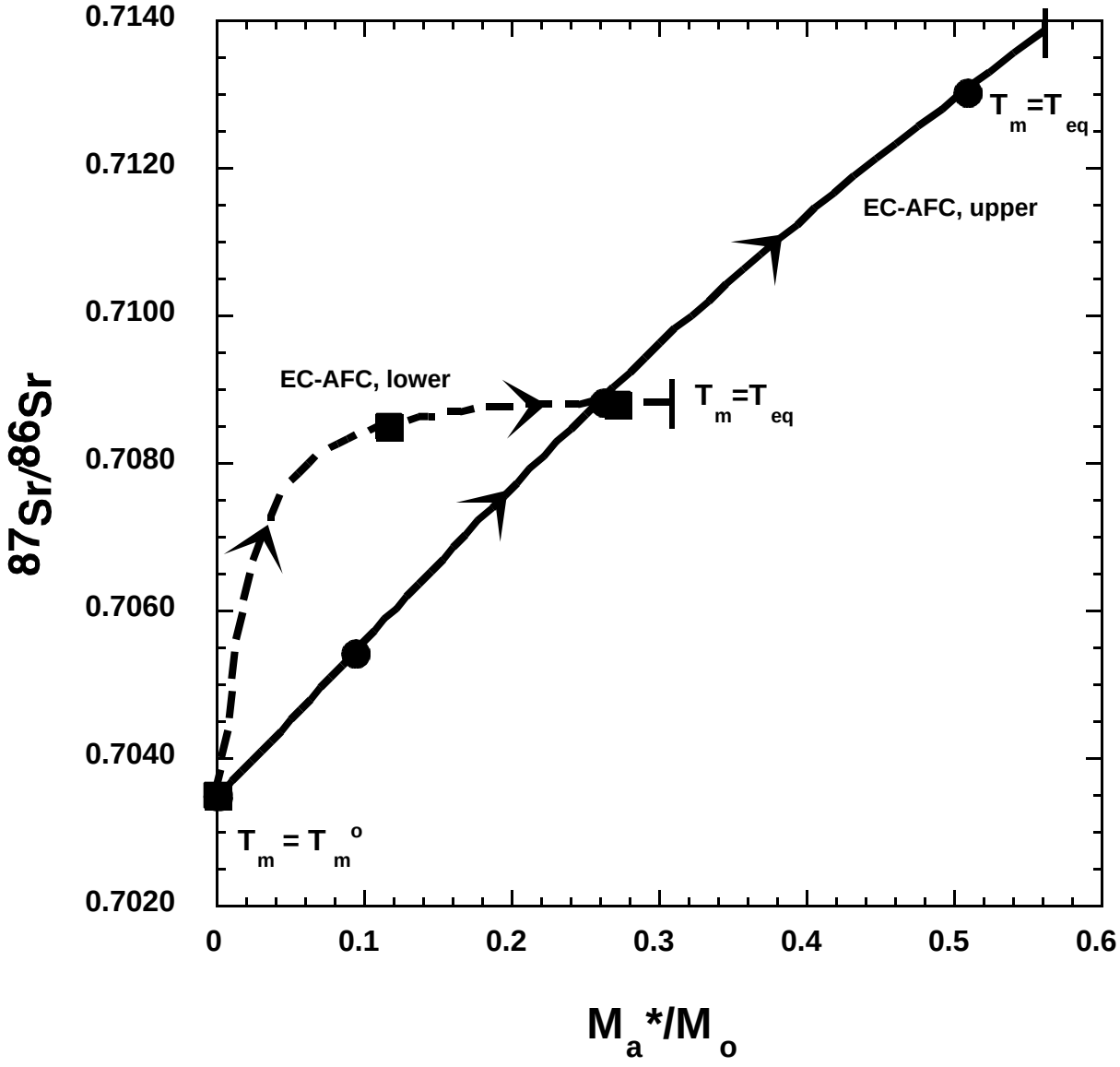

0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
87Sr/86Sr
0
0.1
0.2
0.3
0.4
0.5
0.6
Ma*/Mo
Tm=Teq
EC-AFC, upper
EC-AFC, lower
Tm=Teq
Tm = Tmo

Figure 8a

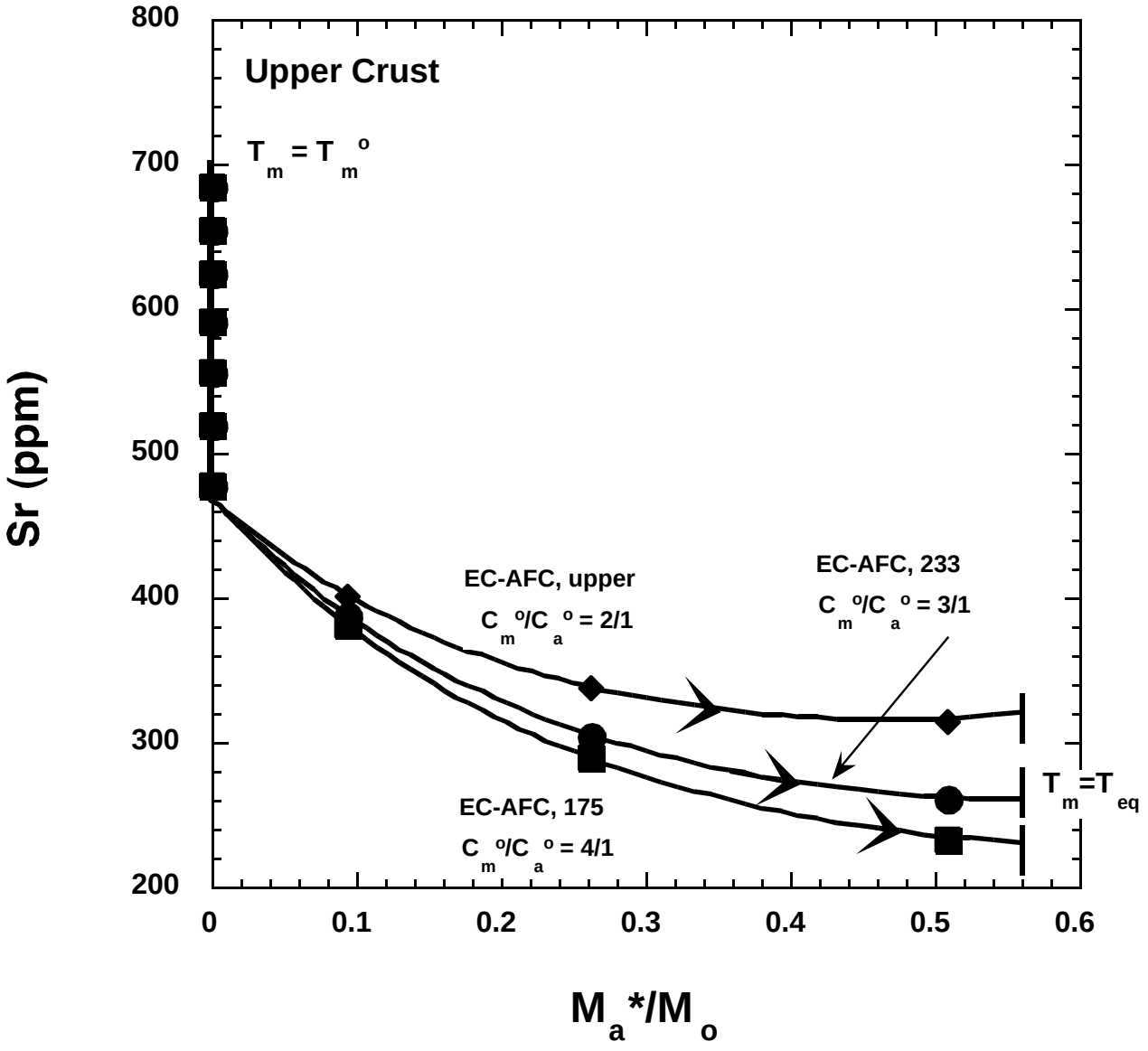

Upper Crust
$T_m = T_m^o$
EC-AFC, upper
C_m^o/C_a^o = 2/1
EC-AFC, 233
C_m^o/C_a^o = 3/1
EC-AFC, 175
C_m^o/C_a^o = 4/1
$T_m = T_{eq}$
Sr (ppm)
800
700
600
500
400
300
200
0
0.1
0.2
0.3
0.4
0.5
0.6
M_a^*/M_o

Figure 8b

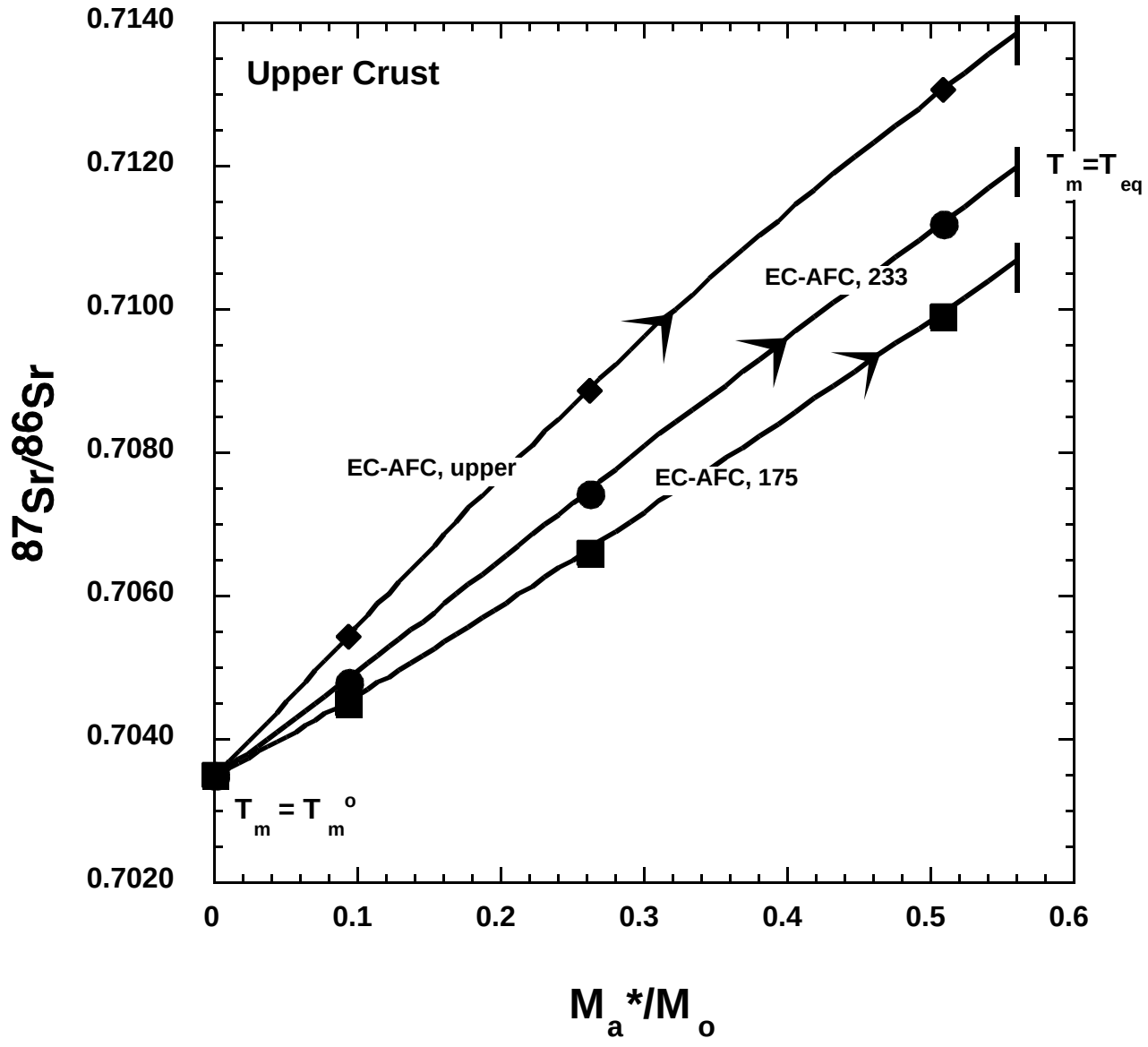

Upper Crust
EC-AFC, upper
EC-AFC, 233
EC-AFC, 175
T m =T eq
T m = T m o
87Sr/86Sr
Ma*/Mo
0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
0
0.1
0.2
0.3
0.4
0.5
0.6

Figure 8c

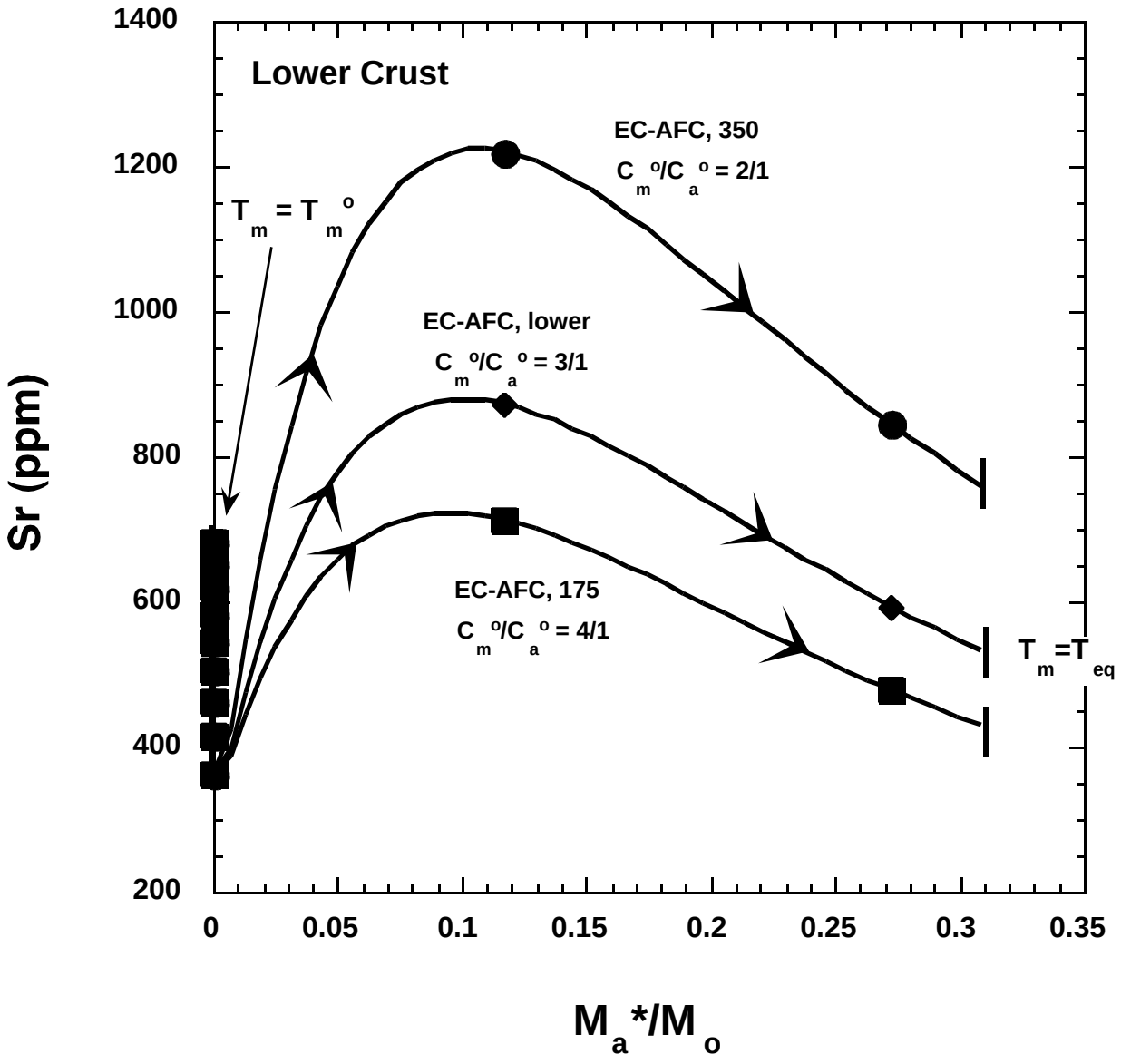

Lower Crust
EC-AFC, 350
C_m^o/C_a^o = 2/1
$T_m = T_m^o$
EC-AFC, lower
C_m^o/C_a^o = 3/1
EC-AFC, 175
C_m^o/C_a^o = 4/1
$T_m = T_{eq}$
Sr (ppm)
1400
1200
1000
800
600
400
200
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
M_a^*/M_o

Figure 8d

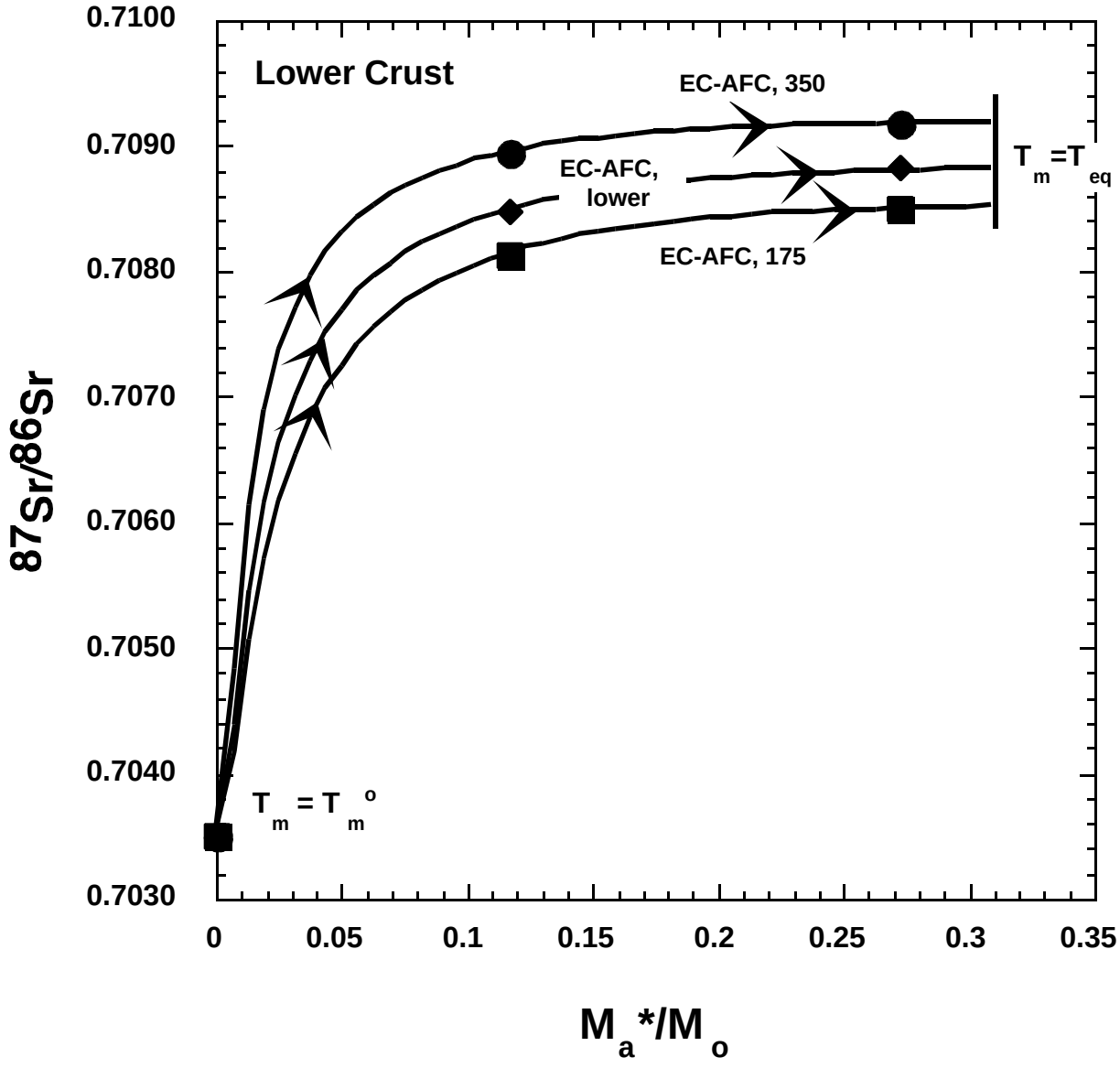

Lower Crust
EC-AFC, 350
EC-AFC, lower
EC-AFC, 175
T m =T eq
T m = T m o
87Sr/86Sr
Ma*/Mo
0.7100
0.7090
0.7080
0.7070
0.7060
0.7050
0.7040
0.7030
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35

Figure 9a

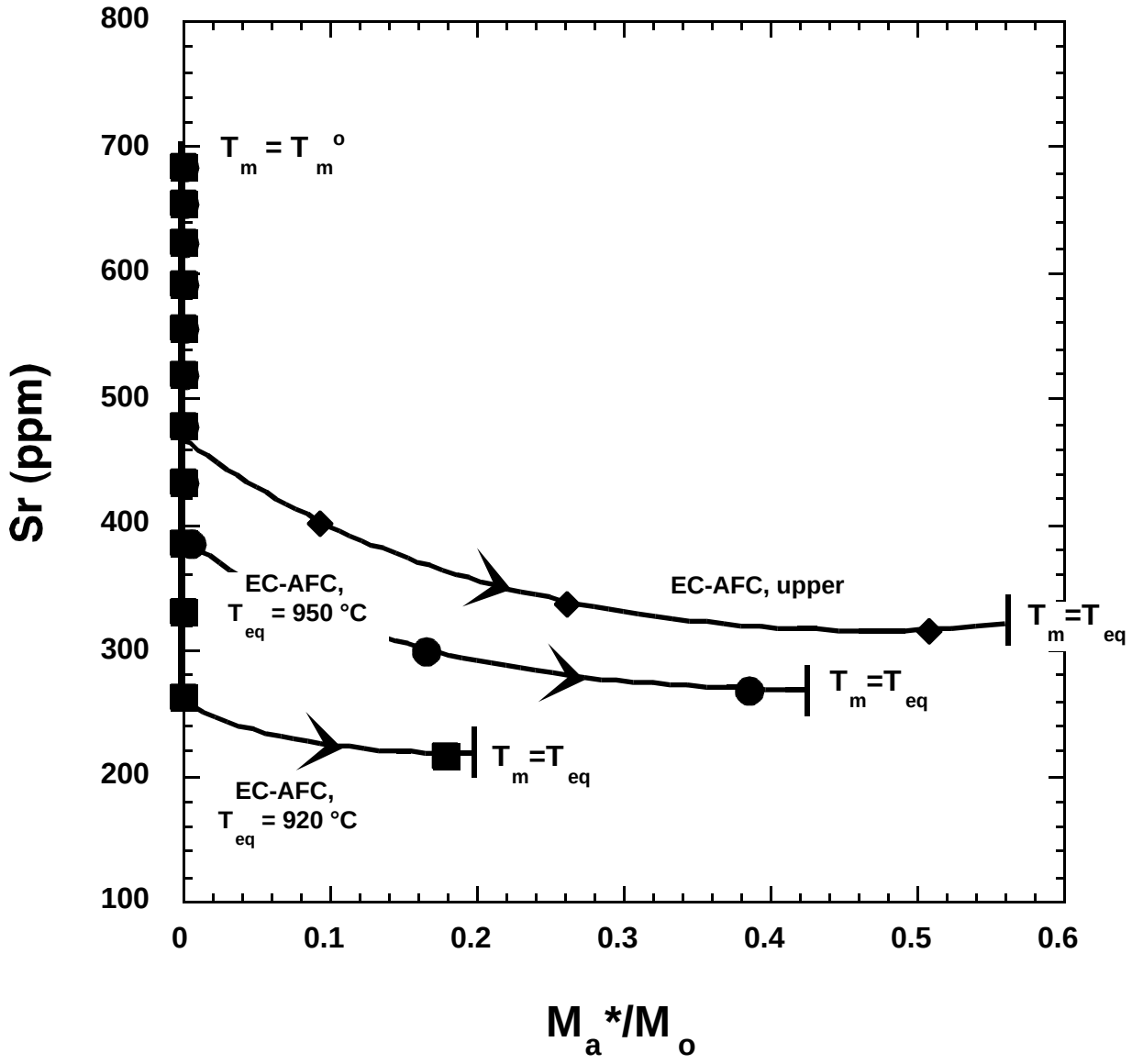

800
700
600
500
400
300
200
100
Sr (ppm)
0
0.1
0.2
0.3
0.4
0.5
0.6
M_a^*/M_o
$T_m = T_m^o$
EC-AFC,
T_{eq} = 950 °C
EC-AFC, upper
$T_m=T_{eq}$
$T_m=T_{eq}$
$T_m=T_{eq}$
EC-AFC,
T_{eq} = 920 °C

Figure 9b

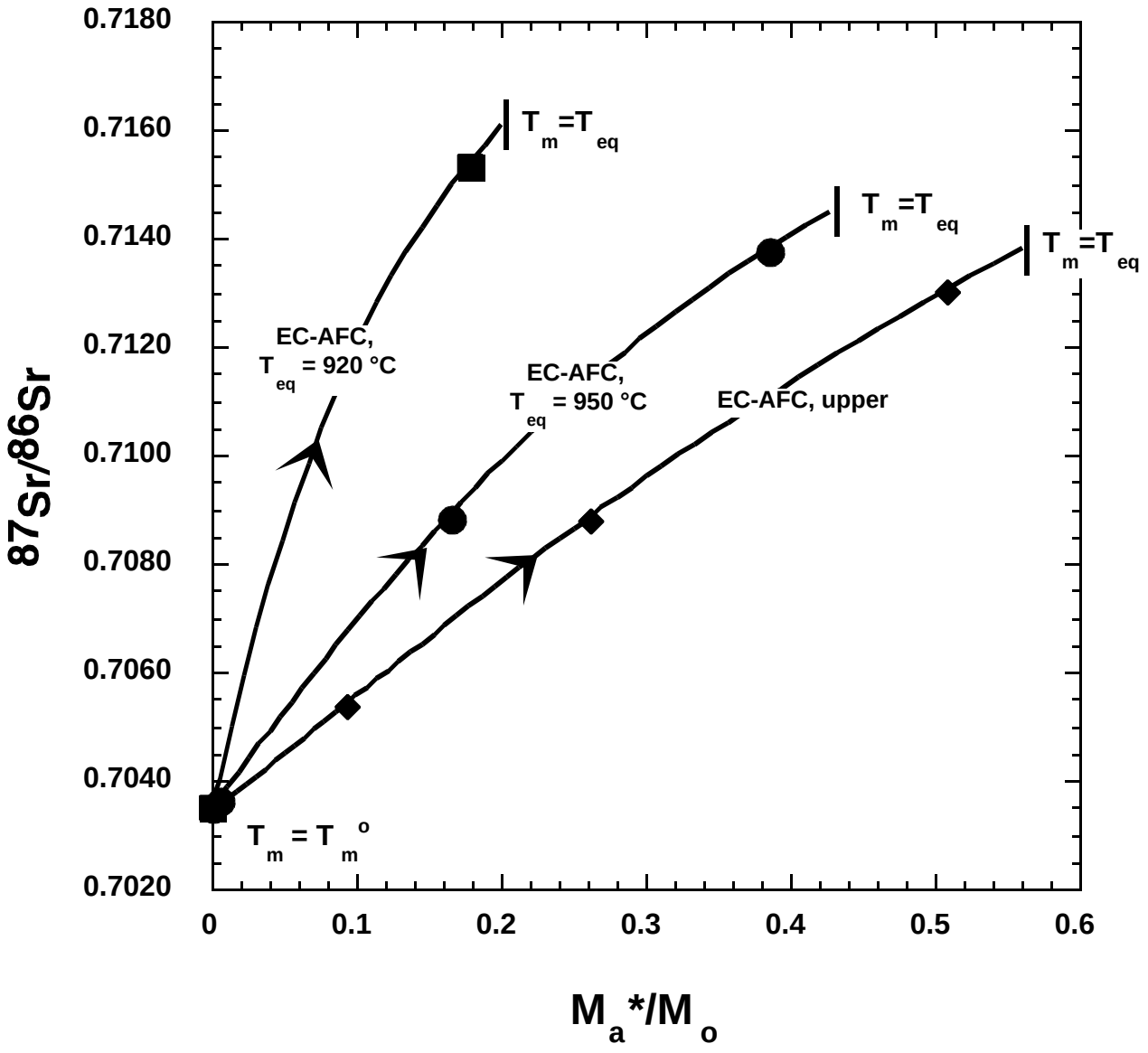

0.7180
0.7160
0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
87Sr/86Sr
0
0.1
0.2
0.3
0.4
0.5
0.6
Ma*/Mo
Tm=Teq
Tm=Teq
Tm=Teq
EC-AFC,
Teq = 920 °C
EC-AFC,
Teq = 950 °C
EC-AFC, upper
Tm = Tmo

Figure 9c

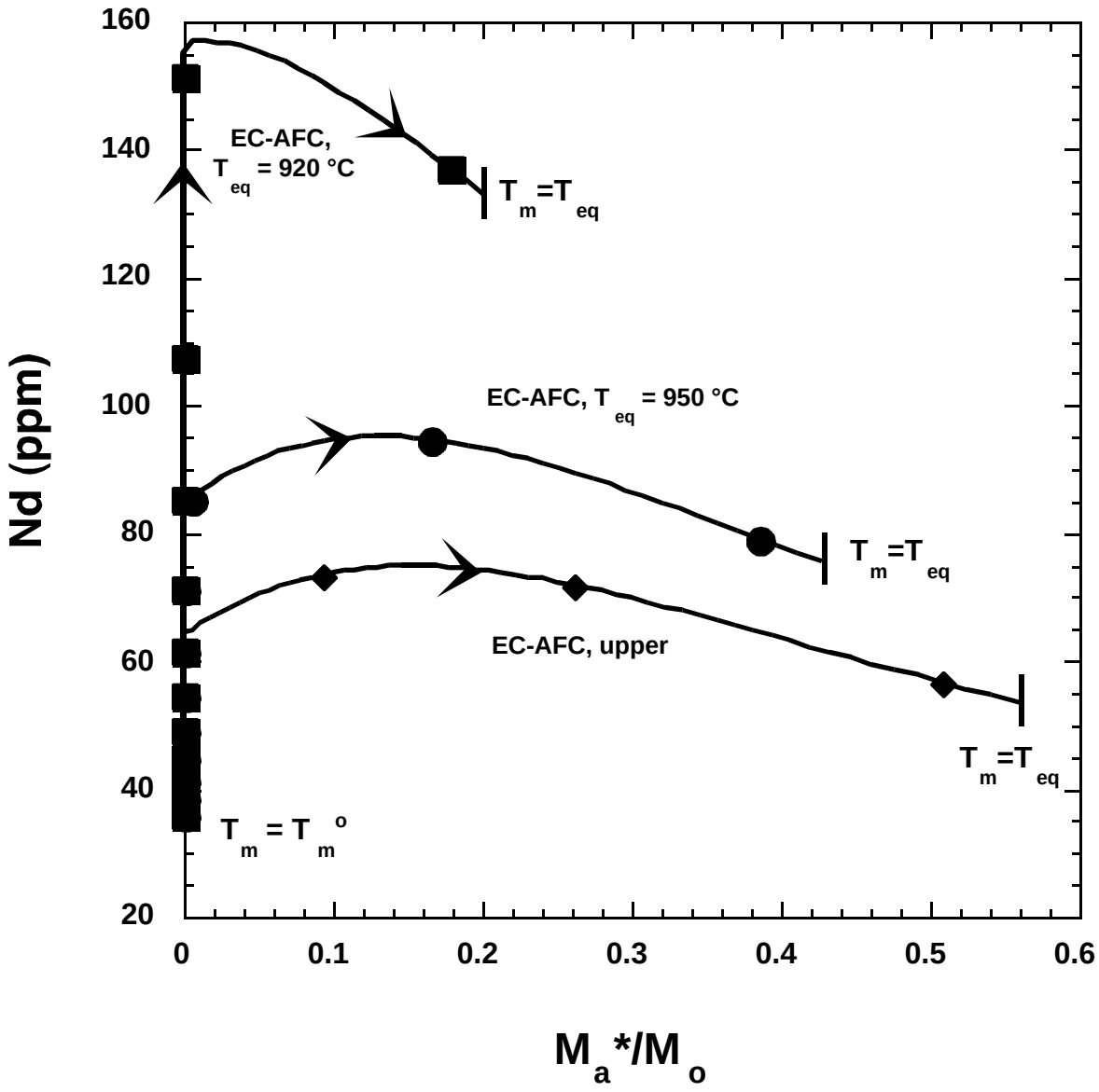

160
140
120
100
80
60
40
20
Nd (ppm)
0
0.1
0.2
0.3
0.4
0.5
0.6
M_a^*/M_o
EC-AFC, T_{eq} = 920 °C
$T_m=T_{eq}$
EC-AFC, T_{eq} = 950 °C
$T_m=T_{eq}$
EC-AFC, upper
$T_m=T_{eq}$
$T_m = T_m^o$

Figure 9d

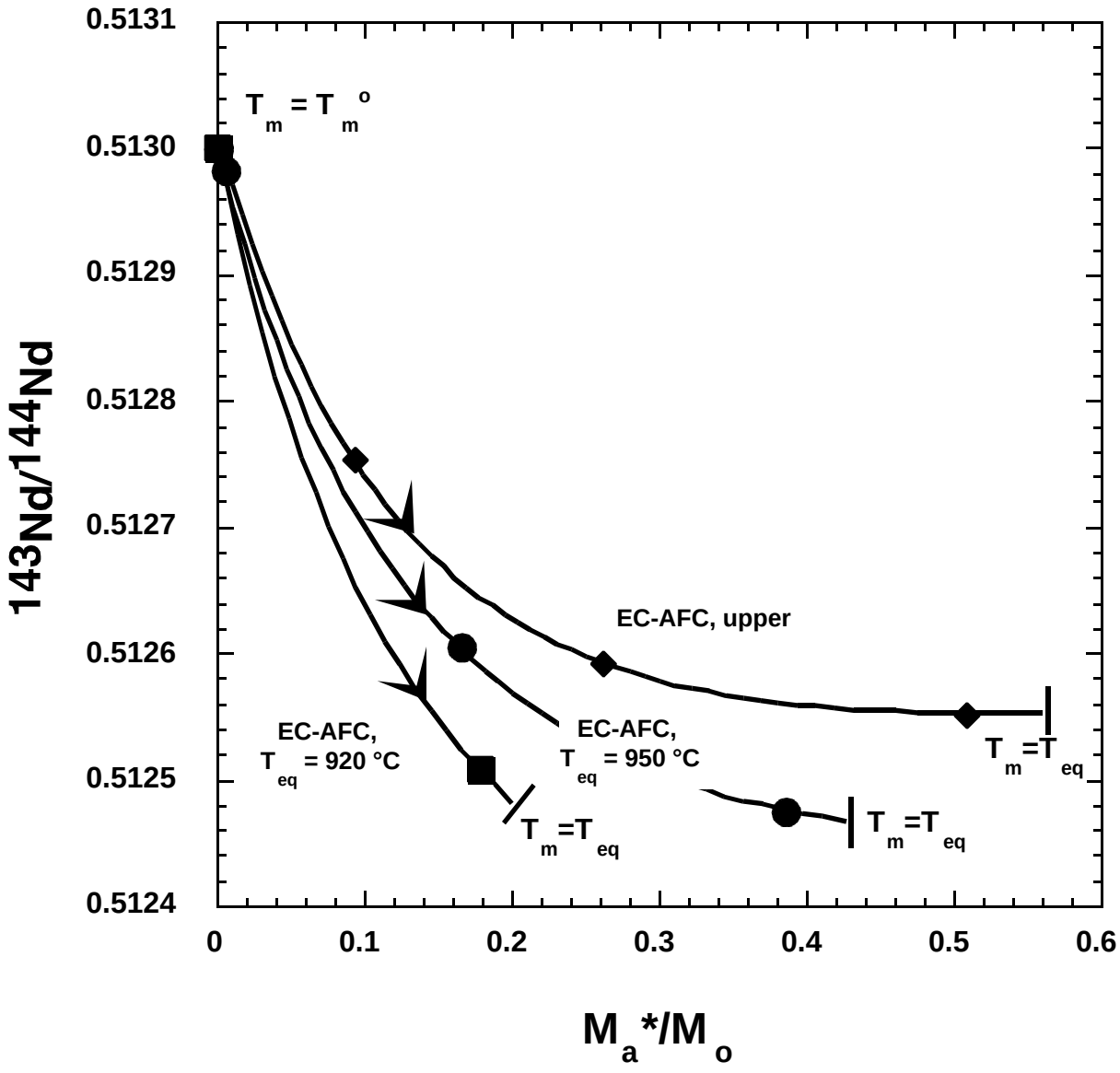

0.5131
0.5130
0.5129
0.5128
0.5127
0.5126
0.5125
0.5124
143Nd/144Nd
0
0.1
0.2
0.3
0.4
0.5
0.6
Ma*/Mo
Tm = Tm o
EC-AFC, upper
EC-AFC,
Teq = 920 °C
EC-AFC,
Teq = 950 °C
Tm=Teq
Tm=Teq
Tm=Teq

Figure 10a

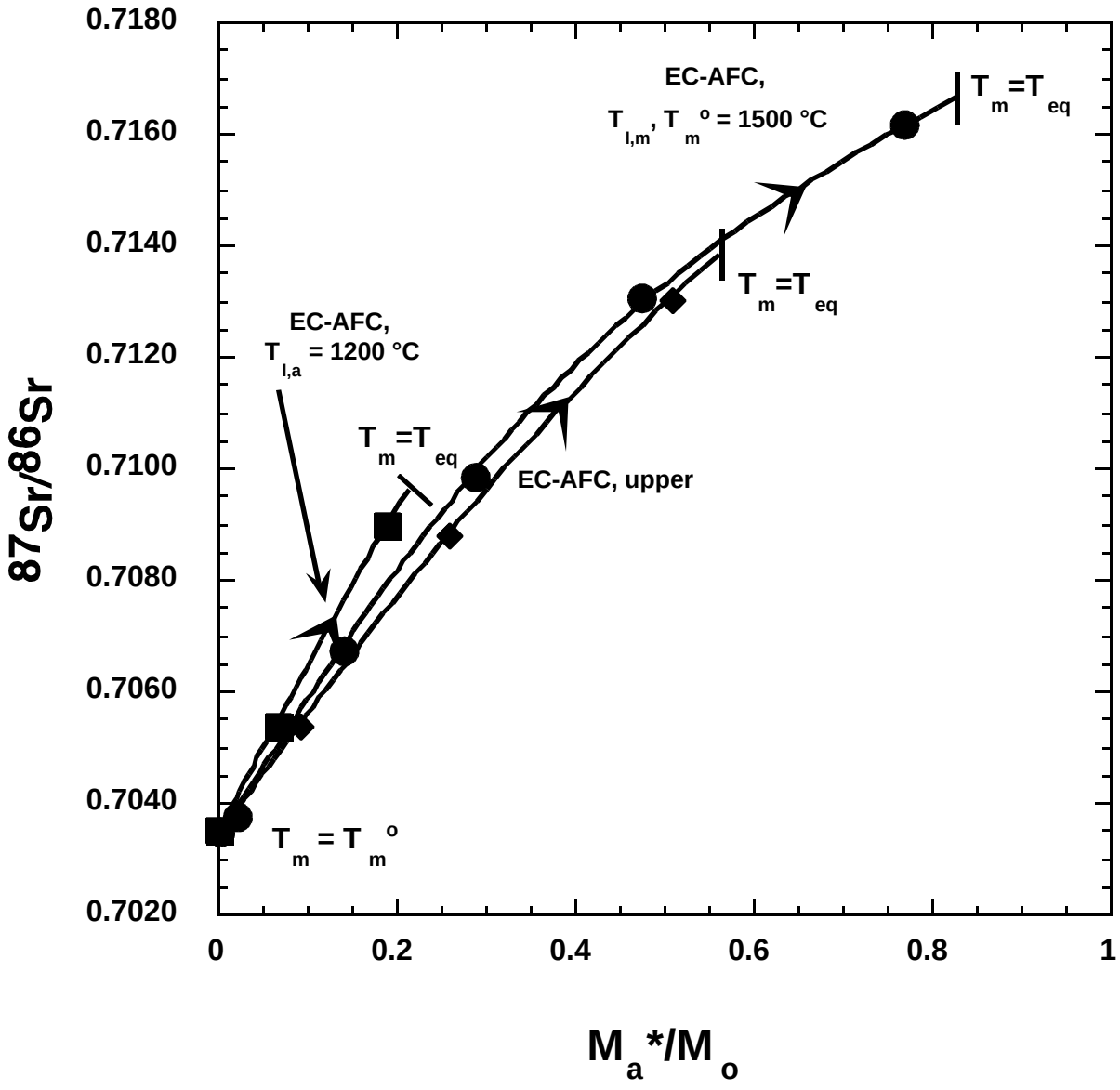

0.7180
0.7160
0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
87Sr/86Sr
0
0.2
0.4
0.6
0.8
1
Ma*/Mo
EC-AFC,
Tl,m, Tm o = 1500 °C
Tm =Teq
Tm =Teq
EC-AFC,
Tl,a = 1200 °C
Tm =Teq
EC-AFC, upper
Tm = Tm o

Figure 10b

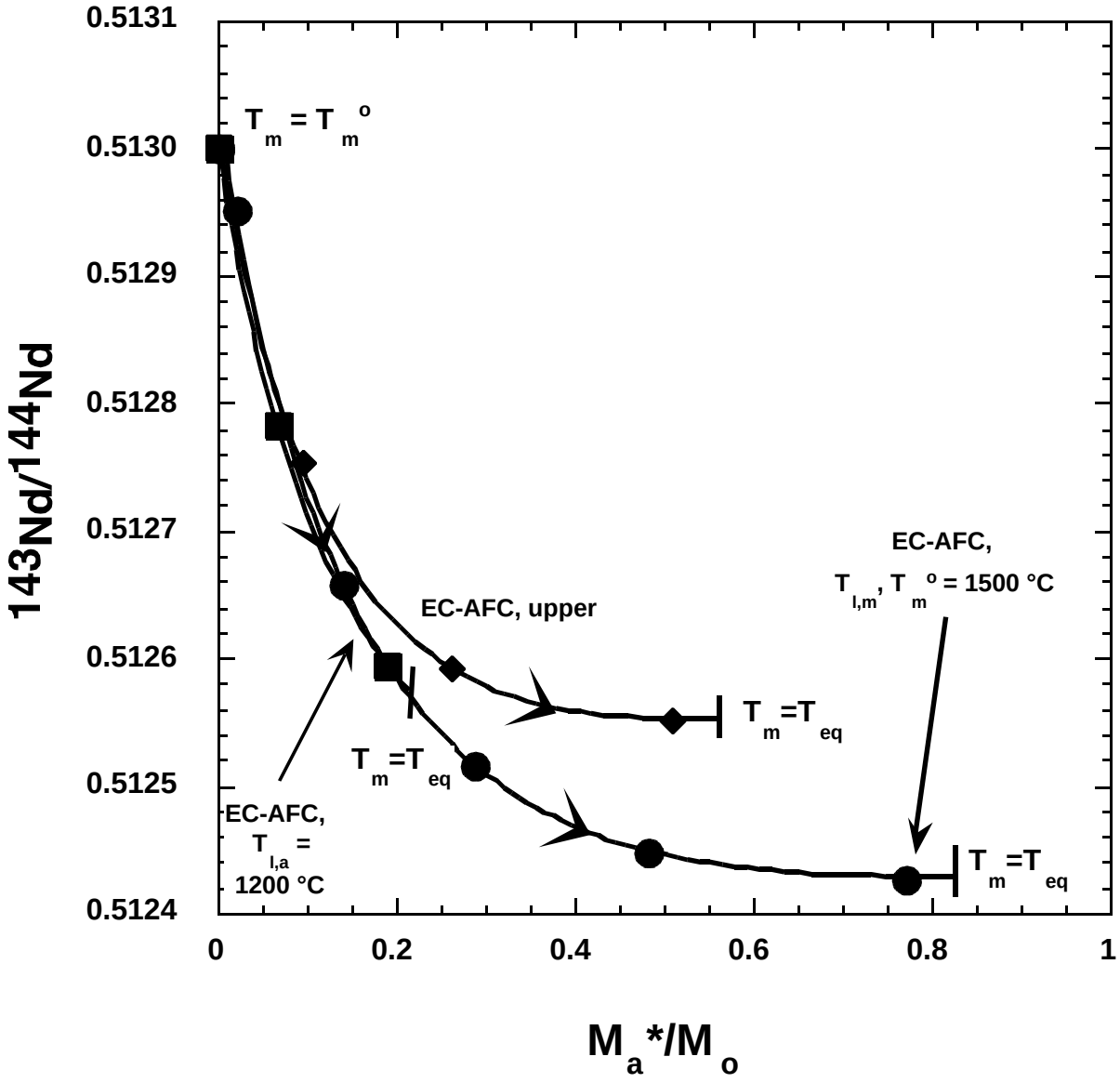

0.5131
0.5130
0.5129
0.5128
0.5127
0.5126
0.5125
0.5124
143Nd/144Nd
0
0.2
0.4
0.6
0.8
1
Ma*/Mo
Tm = Tm o
EC-AFC, upper
EC-AFC,
Tl,m, Tm o = 1500 °C
Tm=Teq
Tm=Teq
EC-AFC,
Tl,a =
1200 °C
Tm=Teq

Figure 11a

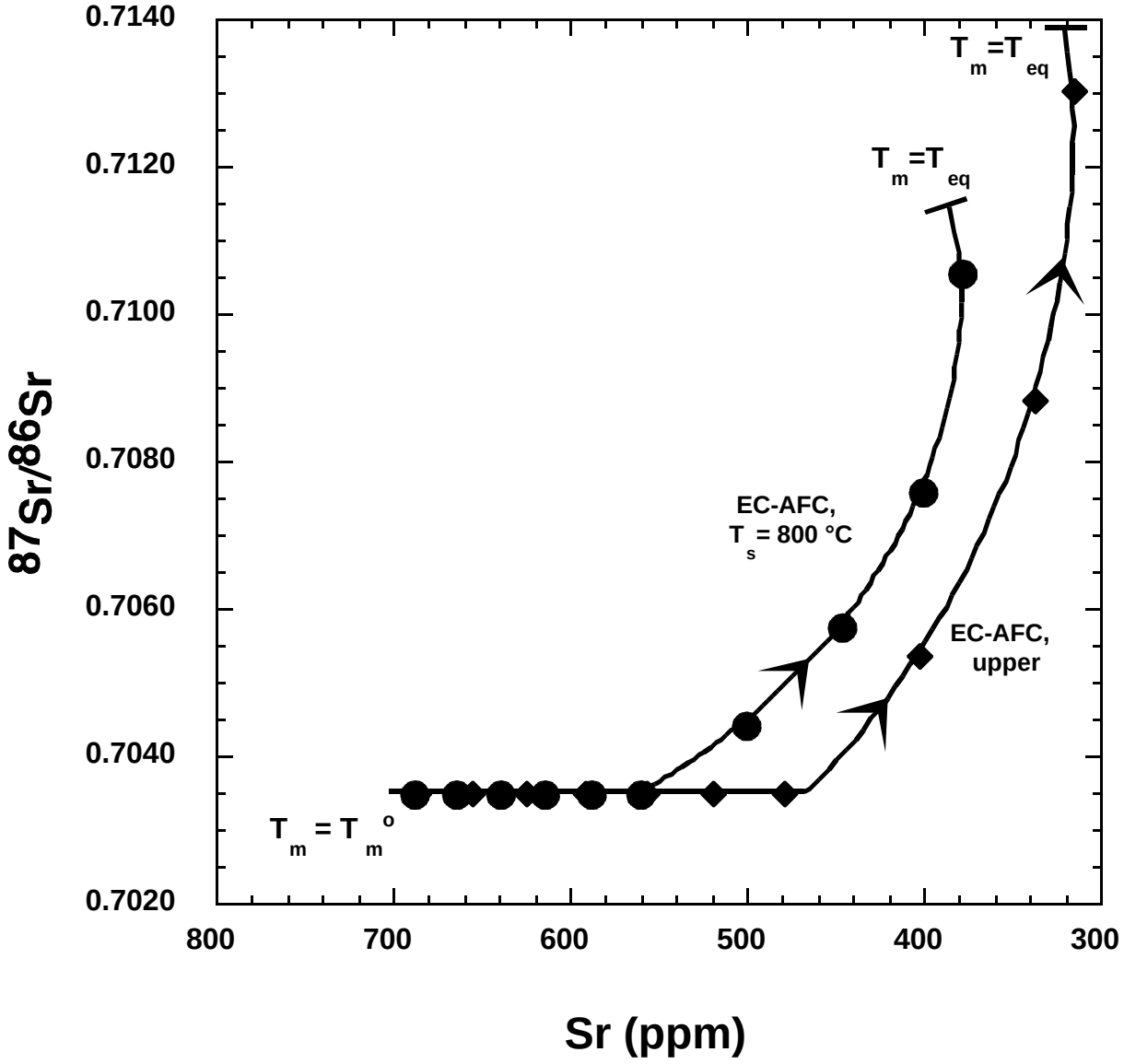

0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
87Sr/86Sr
800
700
600
500
400
300
Sr (ppm)
Tm=Teq
Tm=Teq
EC-AFC,
Ts = 800 °C
EC-AFC,
upper
Tm = Tmo

Figure 11b

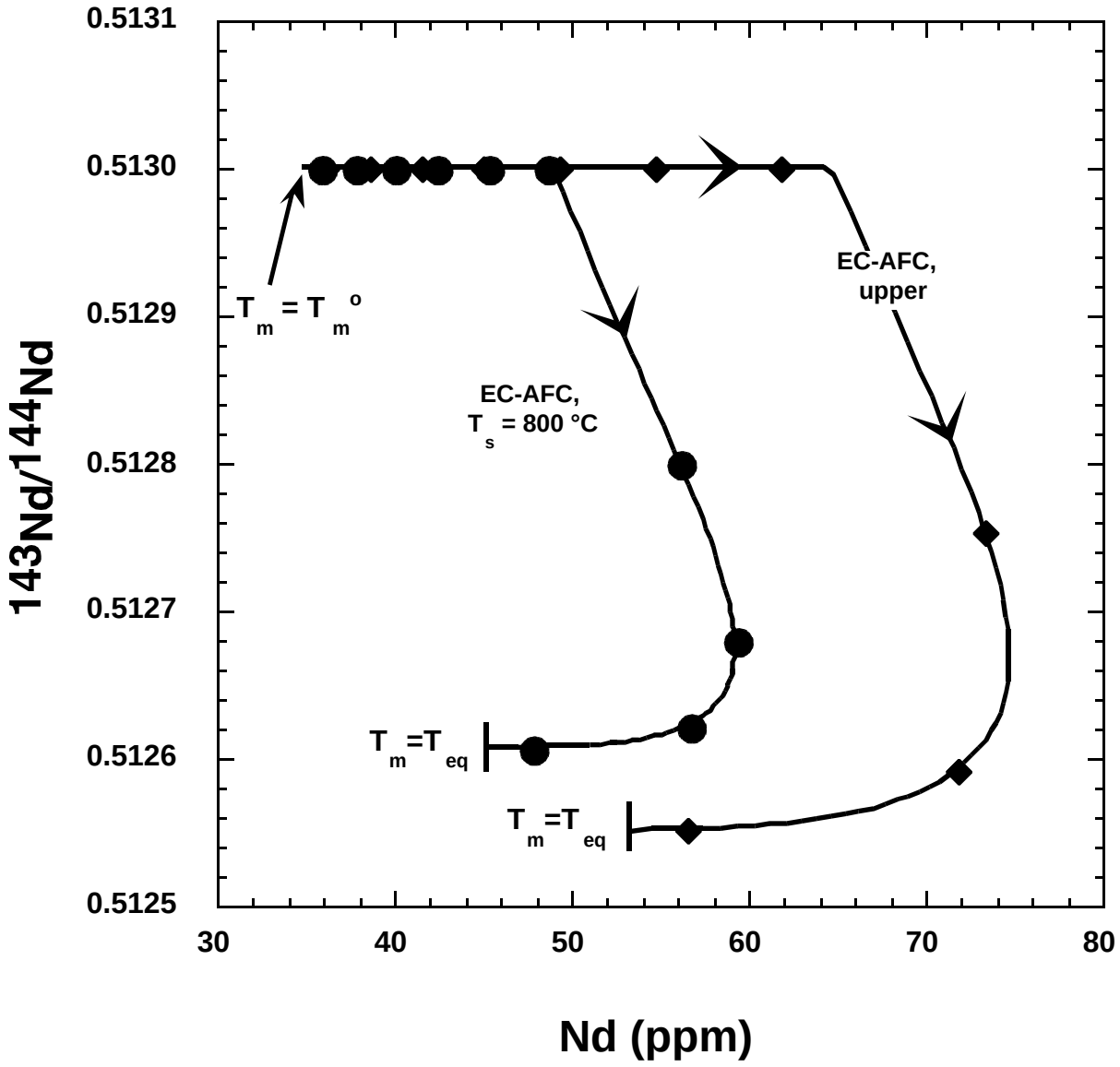

0.5131
0.5130
0.5129
0.5128
0.5127
0.5126
0.5125
143Nd/144Nd
30
40
50
60
70
80
Nd (ppm)
Tm = Tm o
EC-AFC,
upper
EC-AFC,
Ts = 800 °C
Tm=Teq
Tm=Teq

Figure 12a

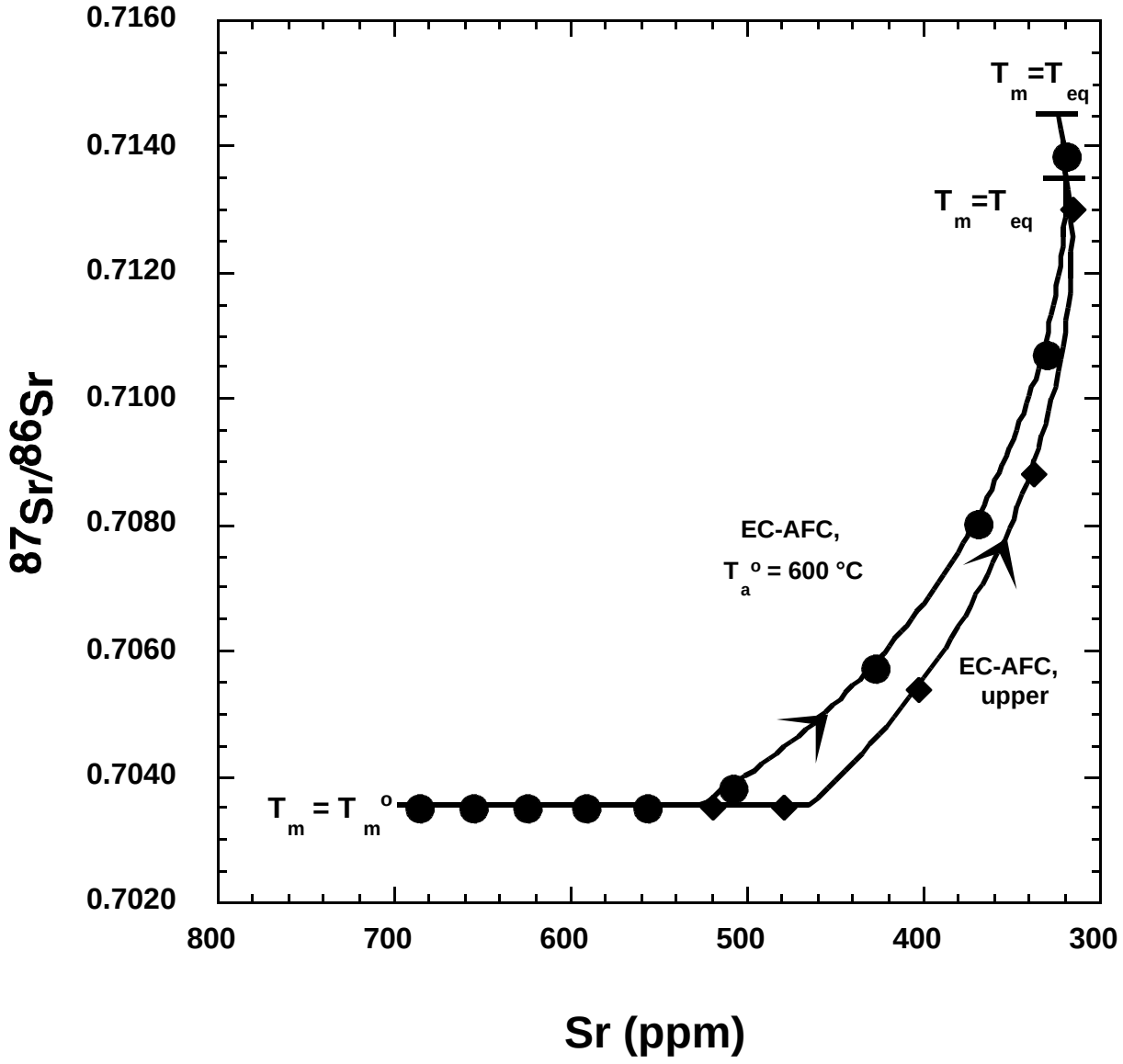

0.7160
0.7140
0.7120
0.7100
0.7080
0.7060
0.7040
0.7020
87Sr/86Sr
800
700
600
500
400
300
Sr (ppm)
Tm=Teq
Tm=Teq
EC-AFC,
Ta o = 600 °C
EC-AFC,
upper
Tm = Tm o

Figure 12b

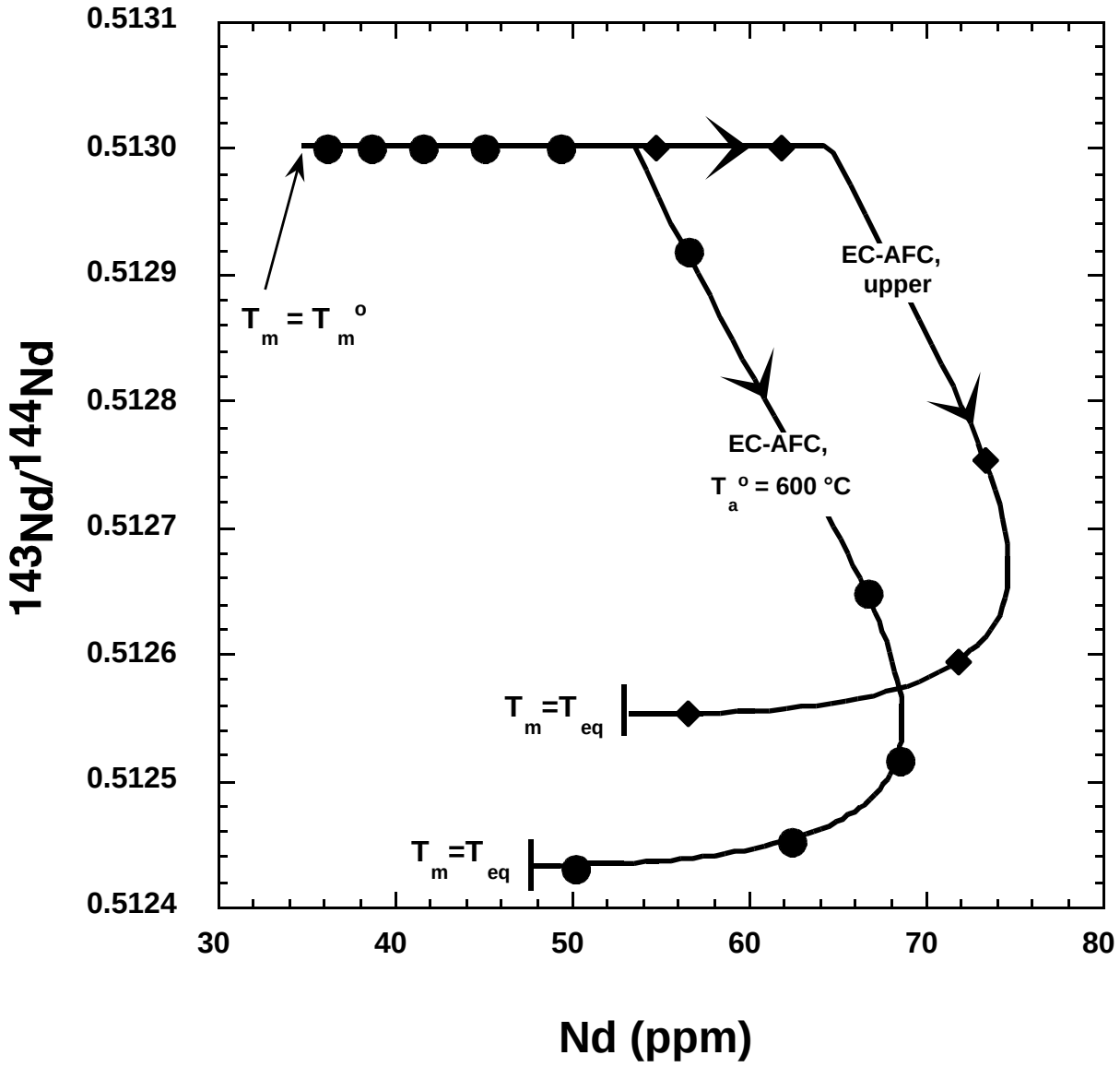

0.5131
0.5130
0.5129
0.5128
0.5127
0.5126
0.5125
0.5124
143Nd/144Nd
30
40
50
60
70
80
Nd (ppm)
Tm = Tm o
EC-AFC, upper
EC-AFC, Ta o = 600 °C
Tm=Teq
Tm=Teq

Figure 13

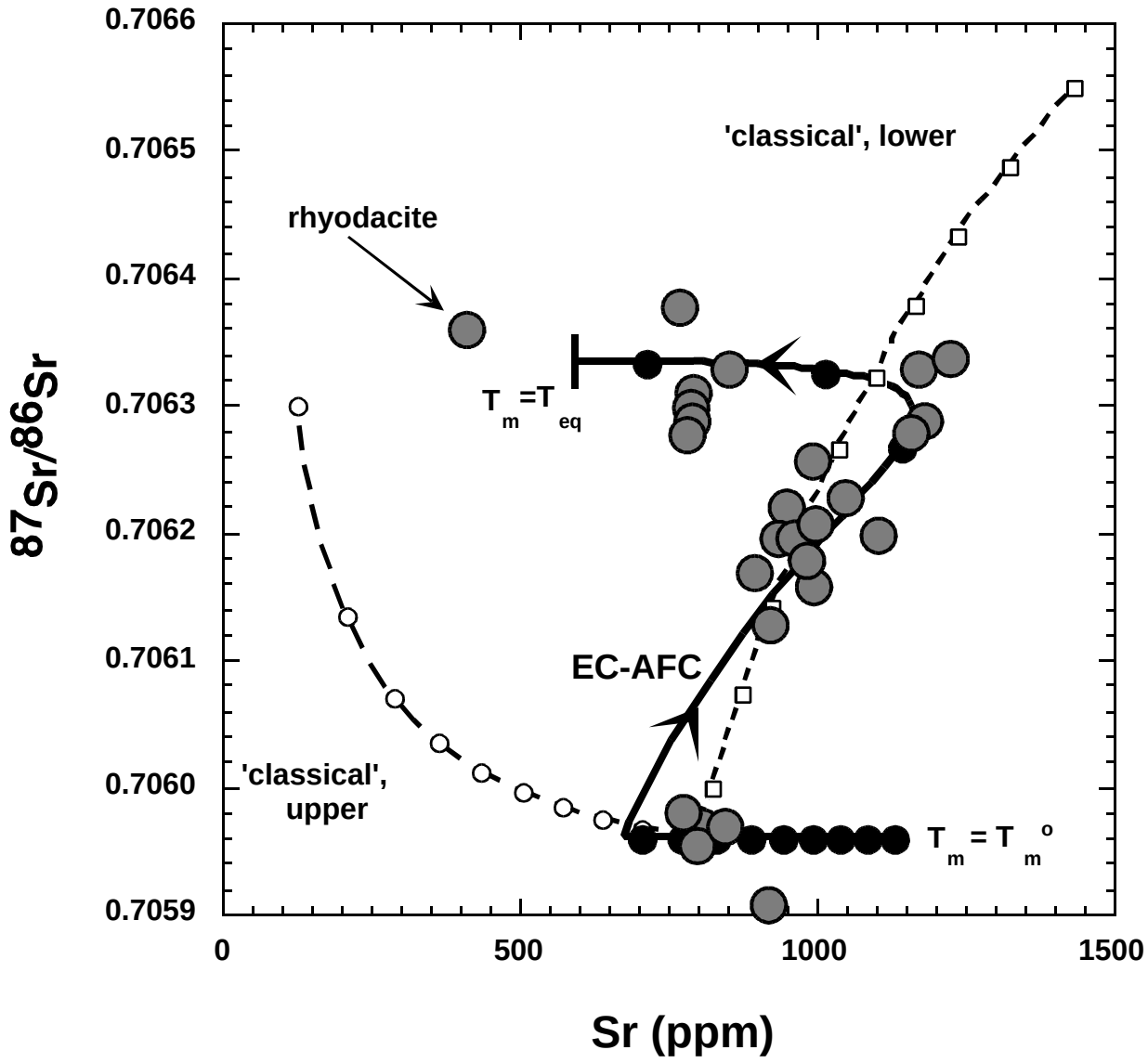

0.7066
0.7065
0.7064
0.7063
0.7062
0.7061
0.7060
0.7059
87Sr/86Sr
0
500
1000
1500
Sr (ppm)
'classical', lower
rhyodacite
Tm=Teq
EC-AFC
'classical', upper
Tm = Tmo

Figure 14

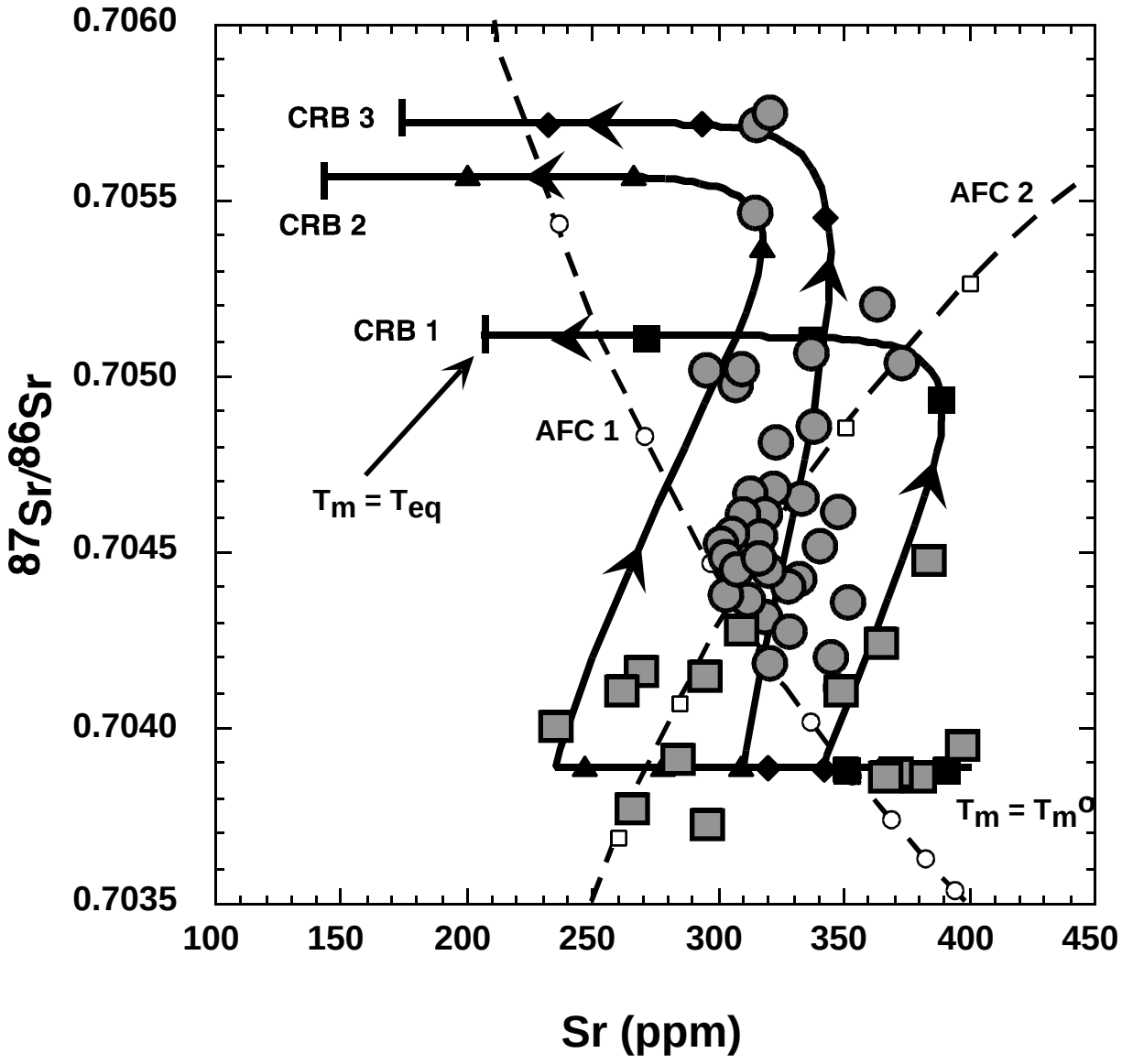

0.7060
0.7055
0.7050
0.7045
0.7040
0.7035
87Sr/86Sr
100
150
200
250
300
350
400
450
Sr (ppm)
CRB 3
CRB 2
CRB 1
AFC 1
AFC 2
Tm = Teq
Tm = Tmo

Figure 15a

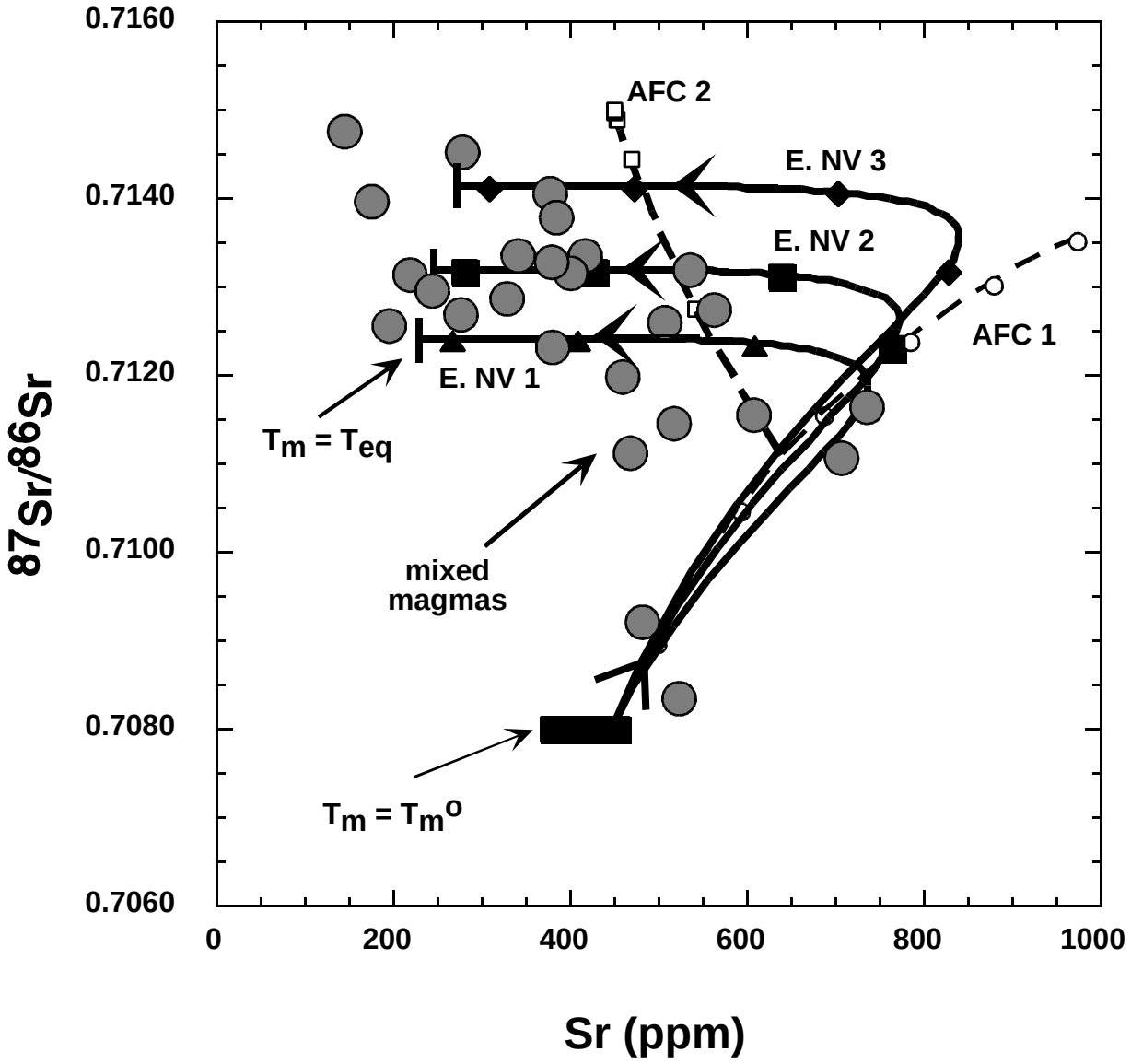

0.7160
0.7140
0.7120
0.7100
0.7080
0.7060
0
200
400
600
800
1000
87Sr/86Sr
Sr (ppm)
AFC 2
E. NV 3
E. NV 2
AFC 1
E. NV 1
Tm = Teq
mixed
magmas
Tm = Tmo

Figure 15b

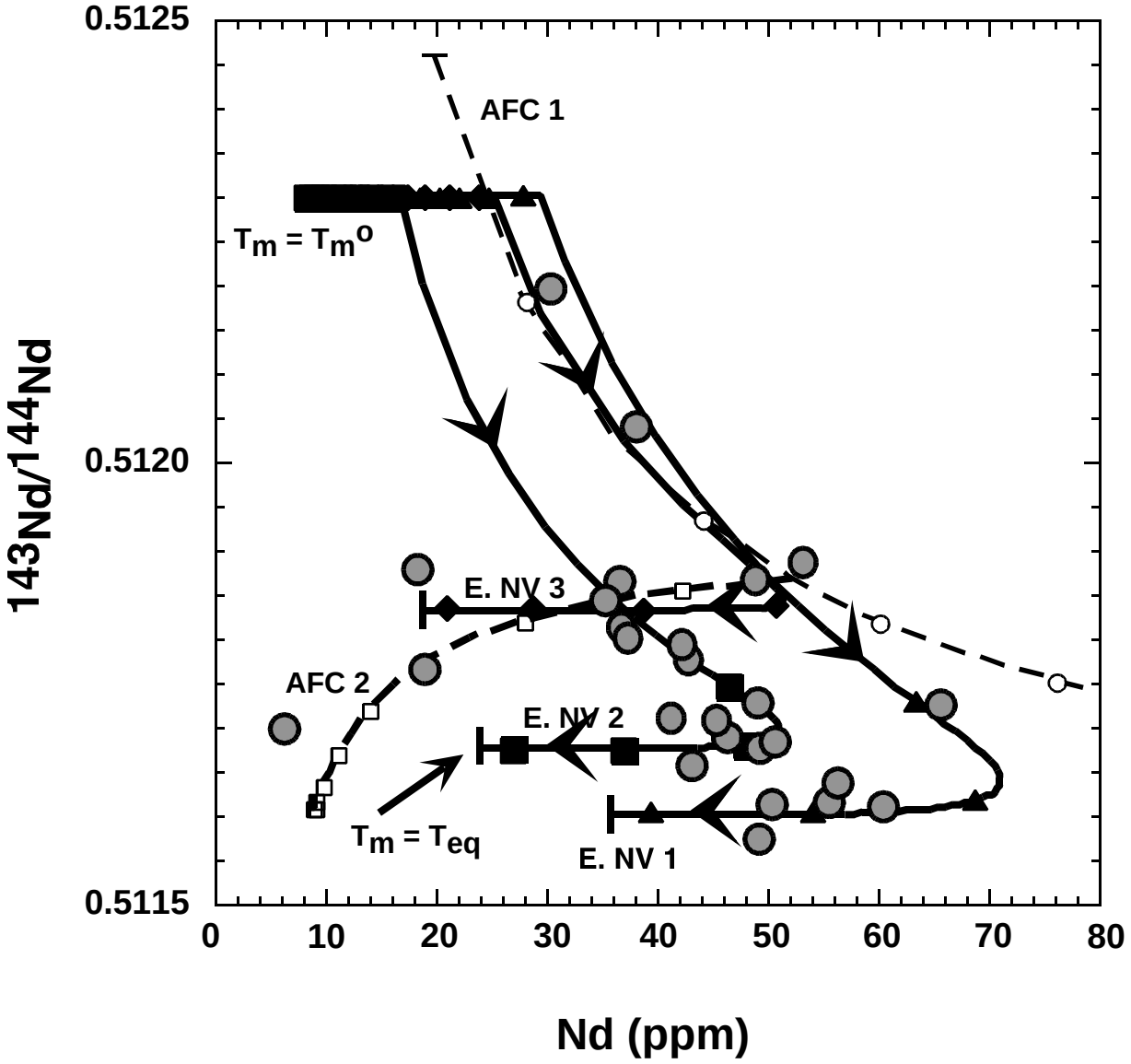
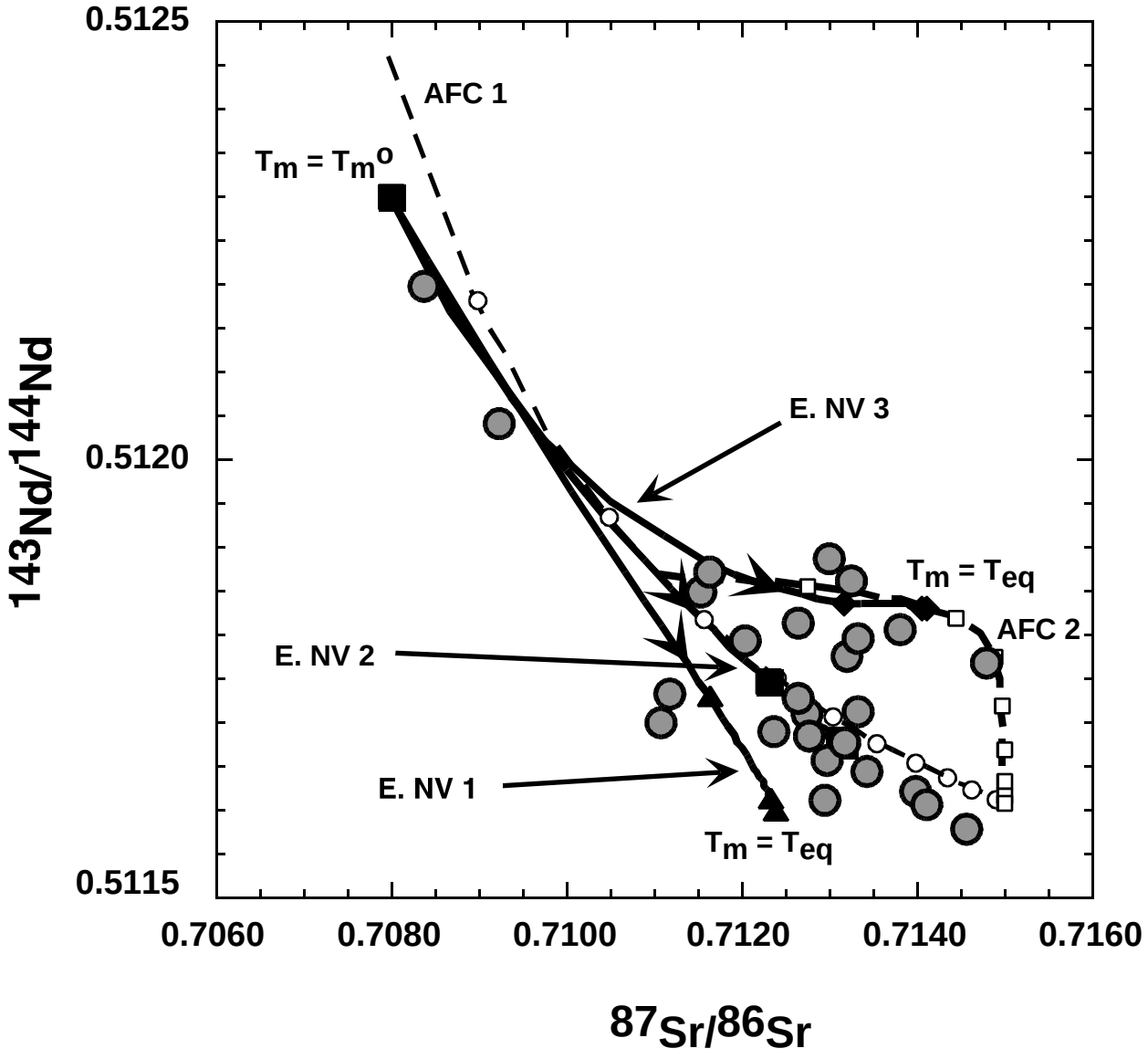

0.5125
0.5120
0.5115
143Nd/144Nd
0
10
20
30
40
50
60
70
80
Nd (ppm)
AFC 1
Tm = Tm^o
E. NV 3
AFC 2
E. NV 2
Tm = Teq
E. NV 1

Figure 15c


0.5125
0.5120
0.5115
143Nd/144Nd
0.7060
0.7080
0.7100
0.7120
0.7140
0.7160
87Sr/86Sr
AFC 1
Tm = Tm°
E. NV 3
Tm = Teq
AFC 2
E. NV 2
E. NV 1
Tm = Teq