Fig. 1

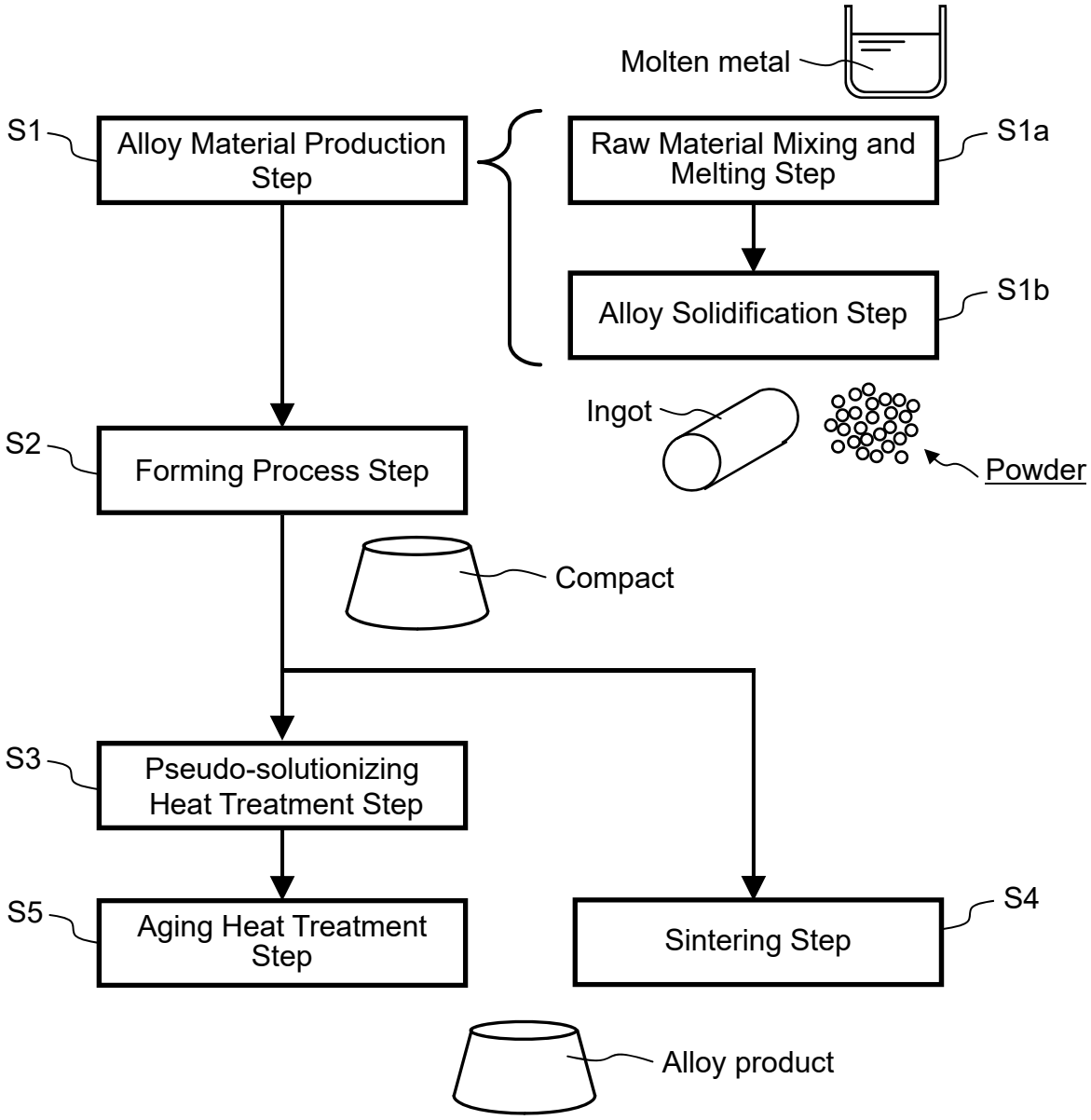

Molten metal
S1
Alloy Material Production Step
Raw Material Mixing and Melting Step
S1a
Alloy Solidification Step
S1b
Ingot
Powder
S2
Forming Process Step
Compact
S3
Pseudo-solutionizing Heat Treatment Step
S5
Aging Heat Treatment Step
Sintering Step
S4
Alloy product

Fig. 2A

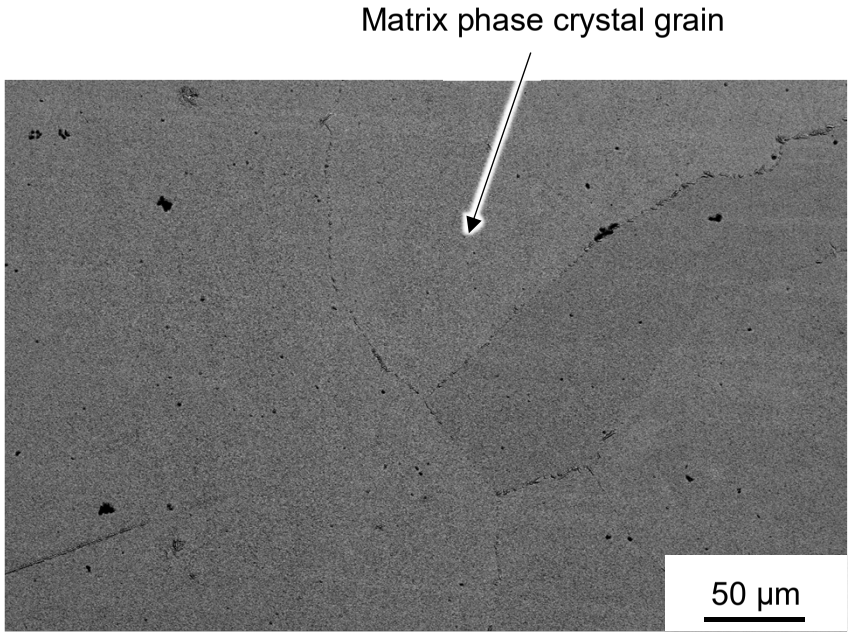

Matrix phase crystal grain
50 μm

Fig. 2B

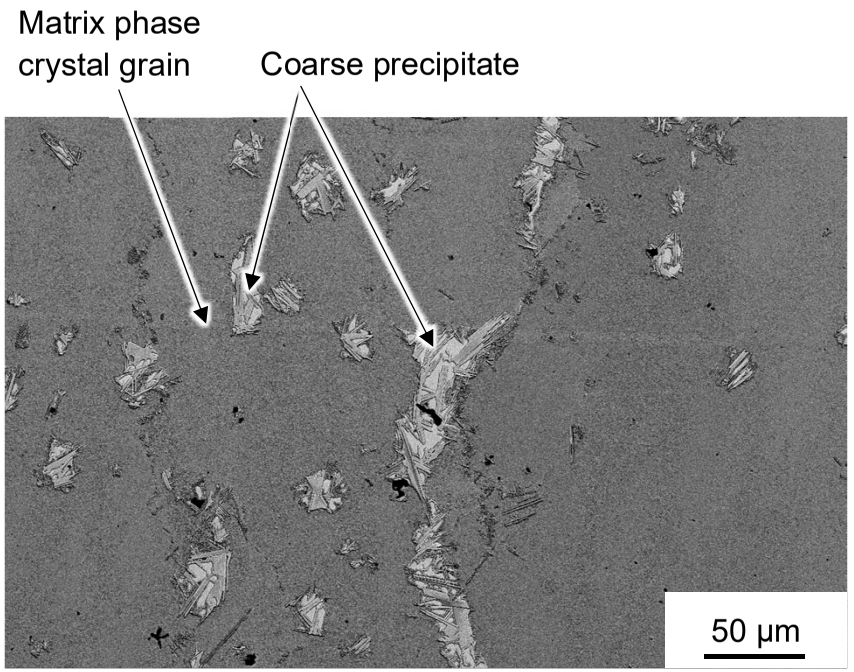

Matrix phase crystal grain
Coarse precipitate
50 μm

Fig. 3A

Electron diffraction pattern

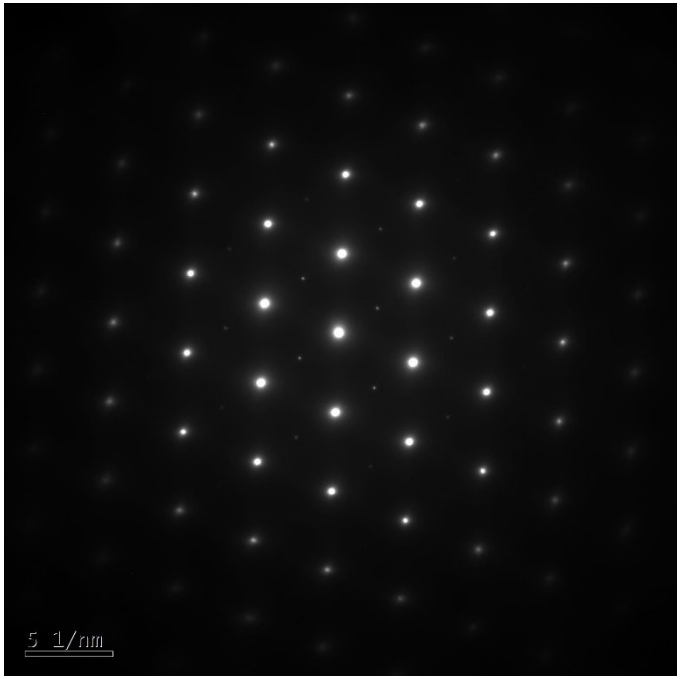


Fig. 3B

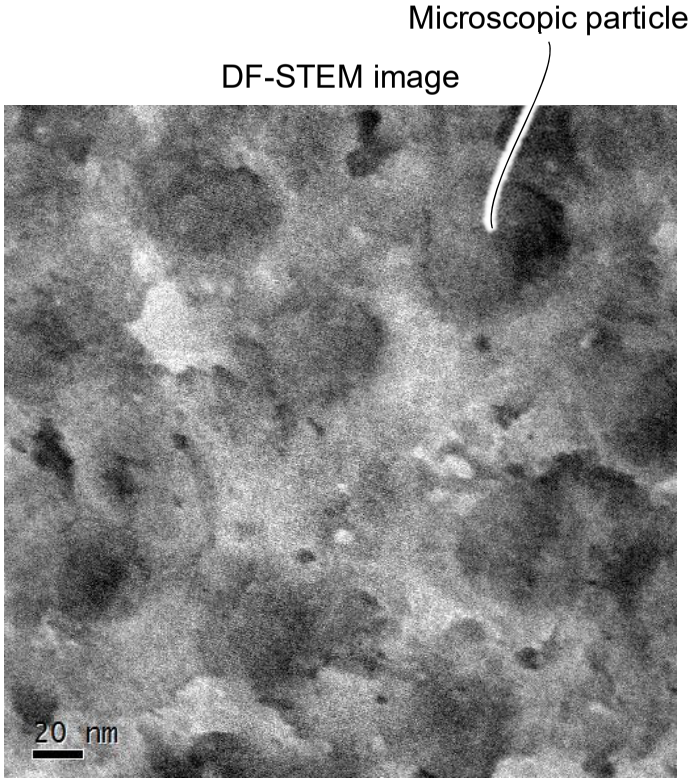


Fig. 4

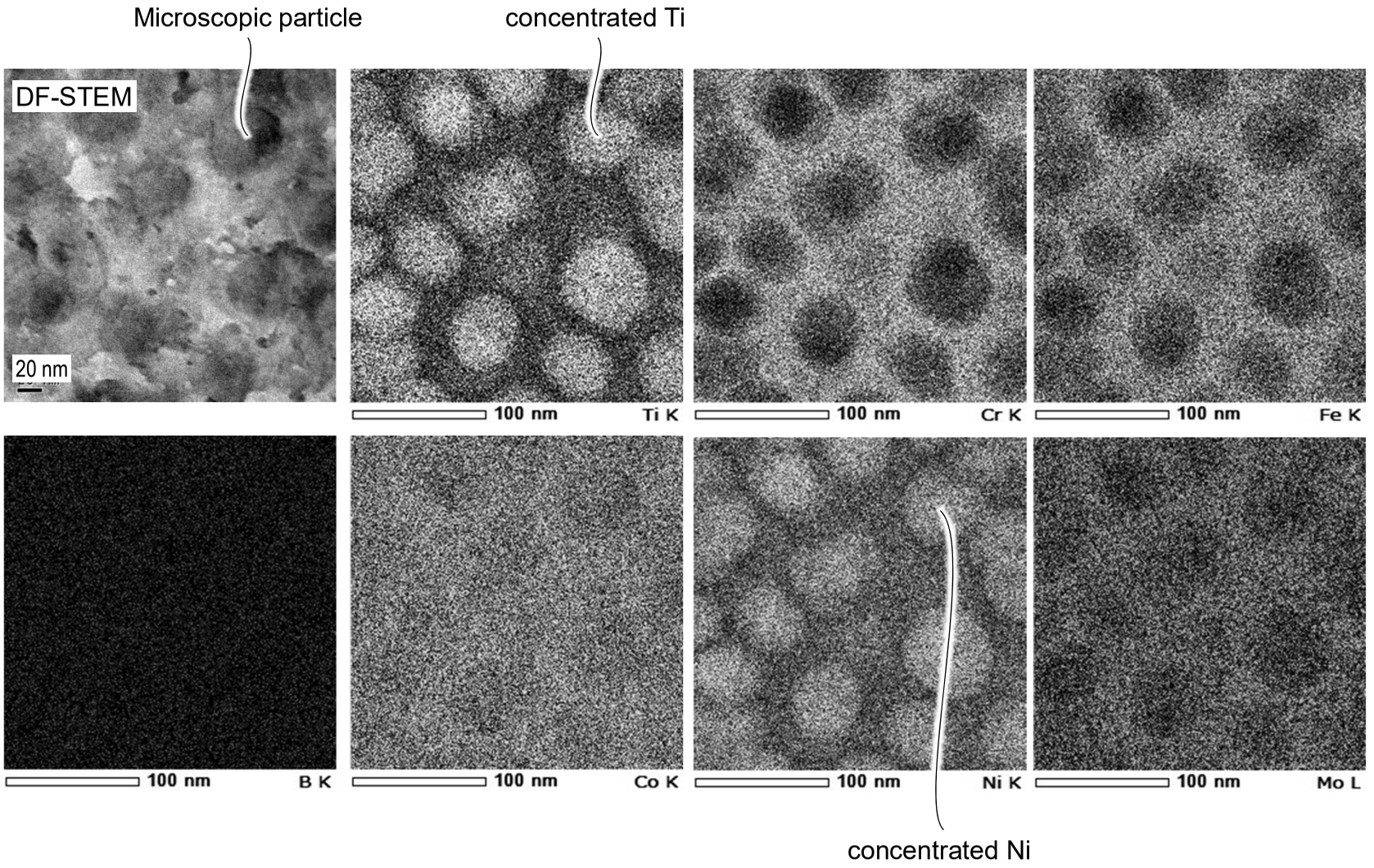

Microscopic particle
concentrated Ti
DF-STEM
20 nm
100 nm
Ti K
100 nm
Cr K
100 nm
Fe K
100 nm
B K
100 nm
Co K
100 nm
Ni K
100 nm
Mo L
concentrated Ni

Fig. 5

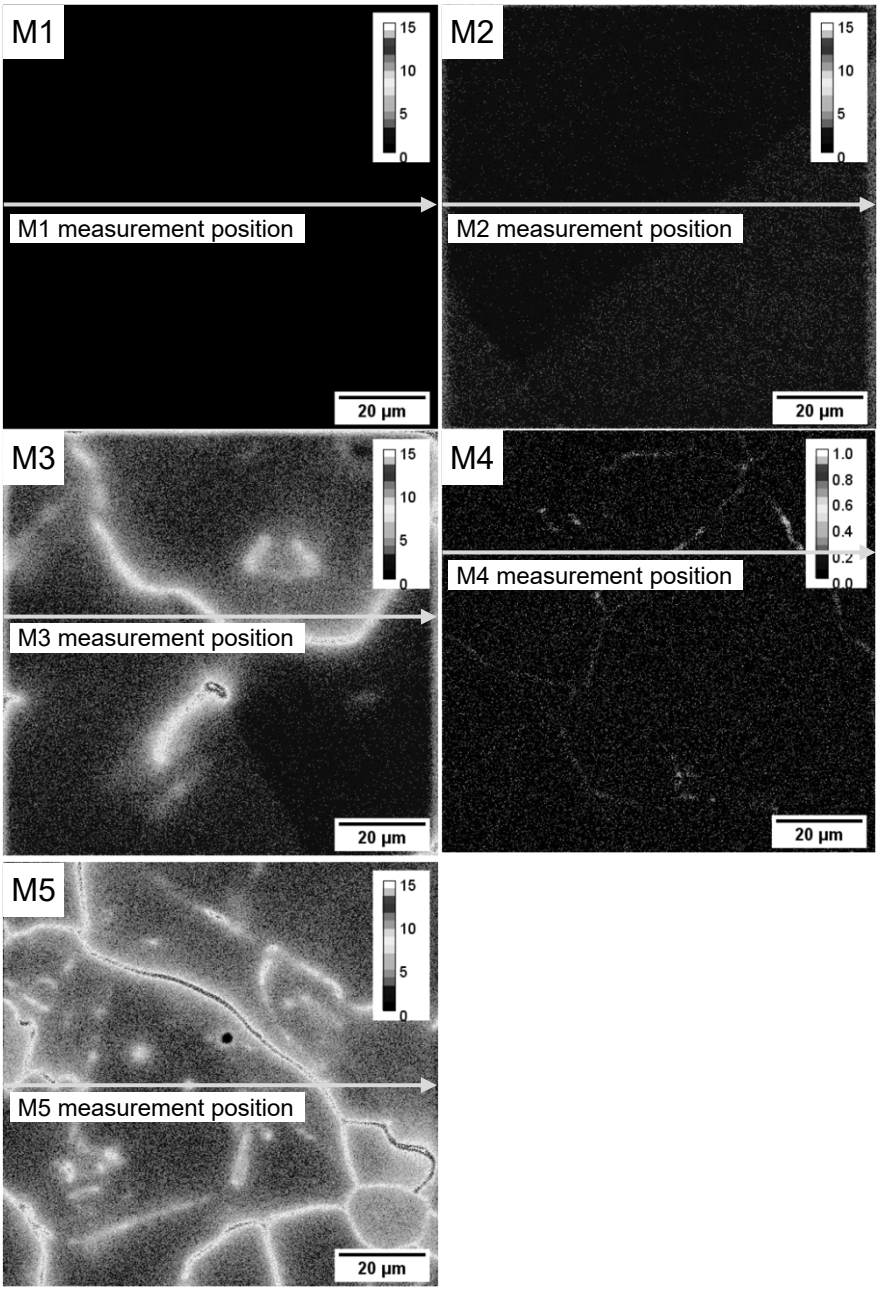
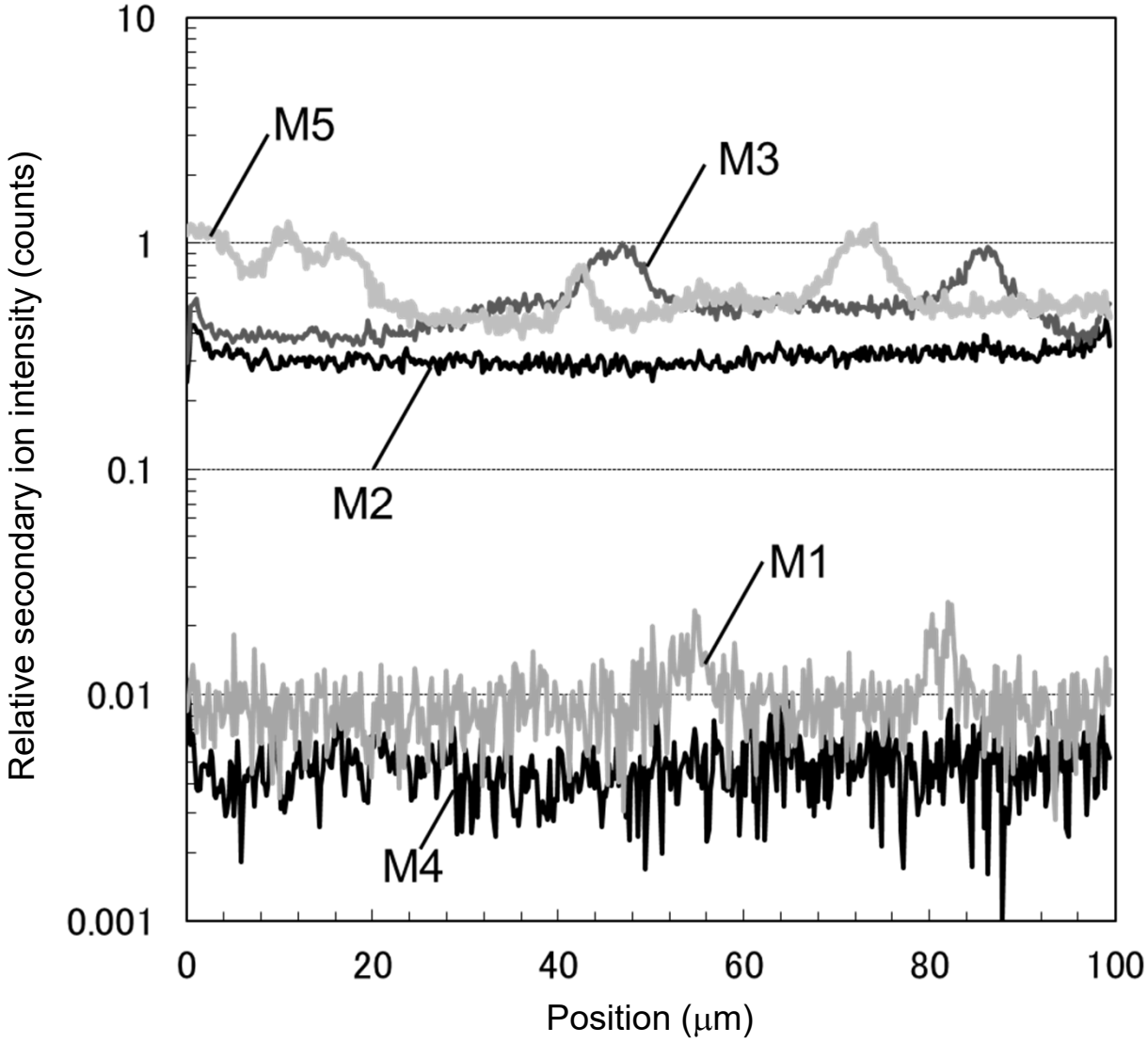

M1
15
10
5
0
M1 measurement position
20 µm
M2
15
10
5
0
M2 measurement position
20 µm
M3
15
10
5
0
M3 measurement position
20 µm
M4
1.0
0.8
0.6
0.4
0.2
0.0
M4 measurement position
20 µm
M5
15
10
5
0
M5 measurement position
20 µm

Fig. 6


10
1
0.1
0.01
0.001
Relative secondary ion intensity (counts)
M5
M3
M2
M1
M4
0
20
40
60
80
100
Position (μm)