FIG. 1

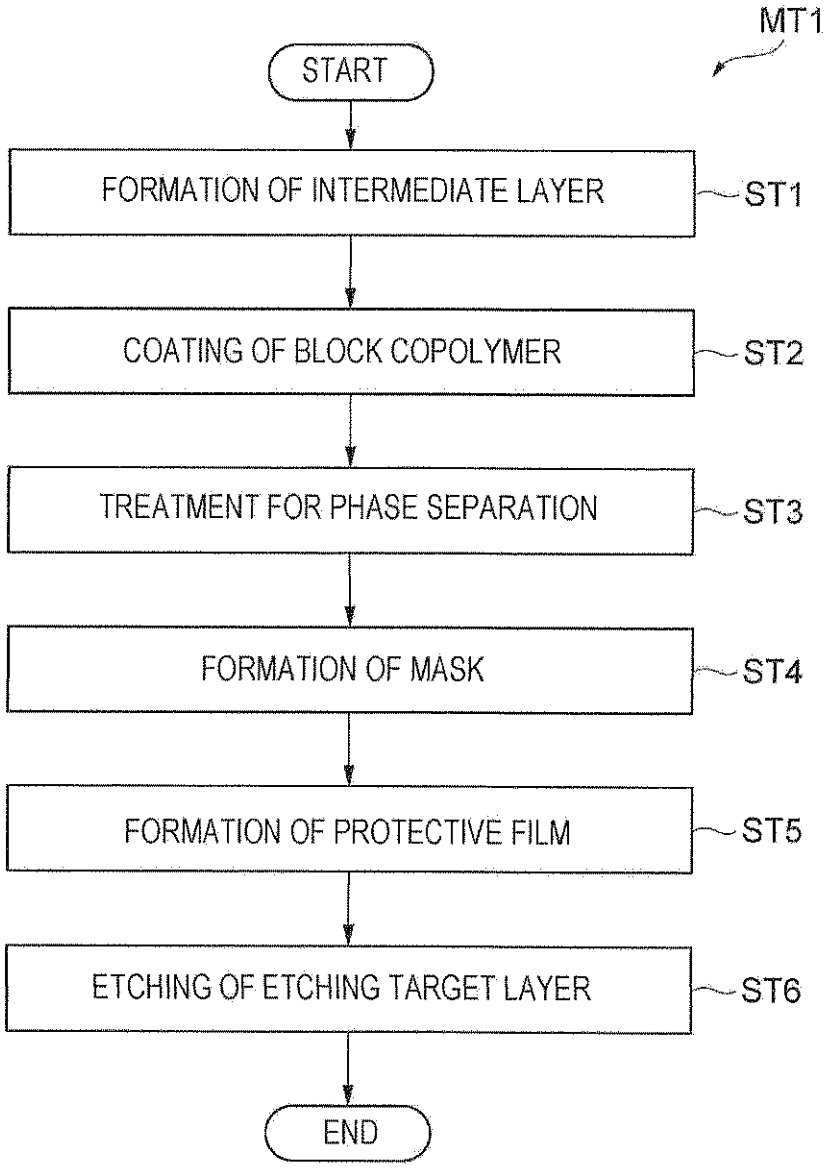

MT1
START
FORMATION OF INTERMEDIATE LAYER
ST1
COATING OF BLOCK COPOLYMER
ST2
TREATMENT FOR PHASE SEPARATION
ST3
FORMATION OF MASK
ST4
FORMATION OF PROTECTIVE FILM
ST5
ETCHING OF ETCHING TARGET LAYER
ST6
END

FIG. 2

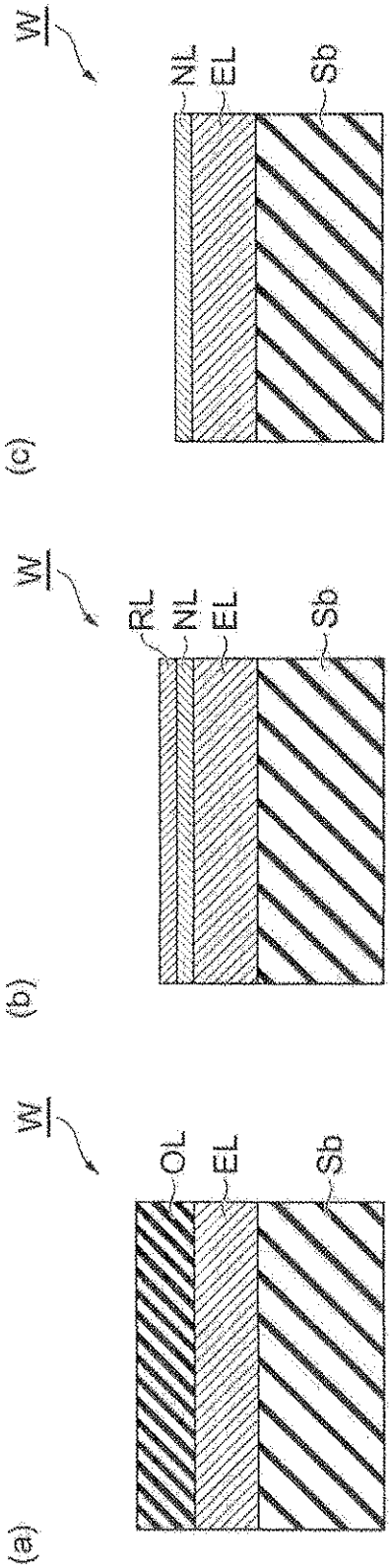
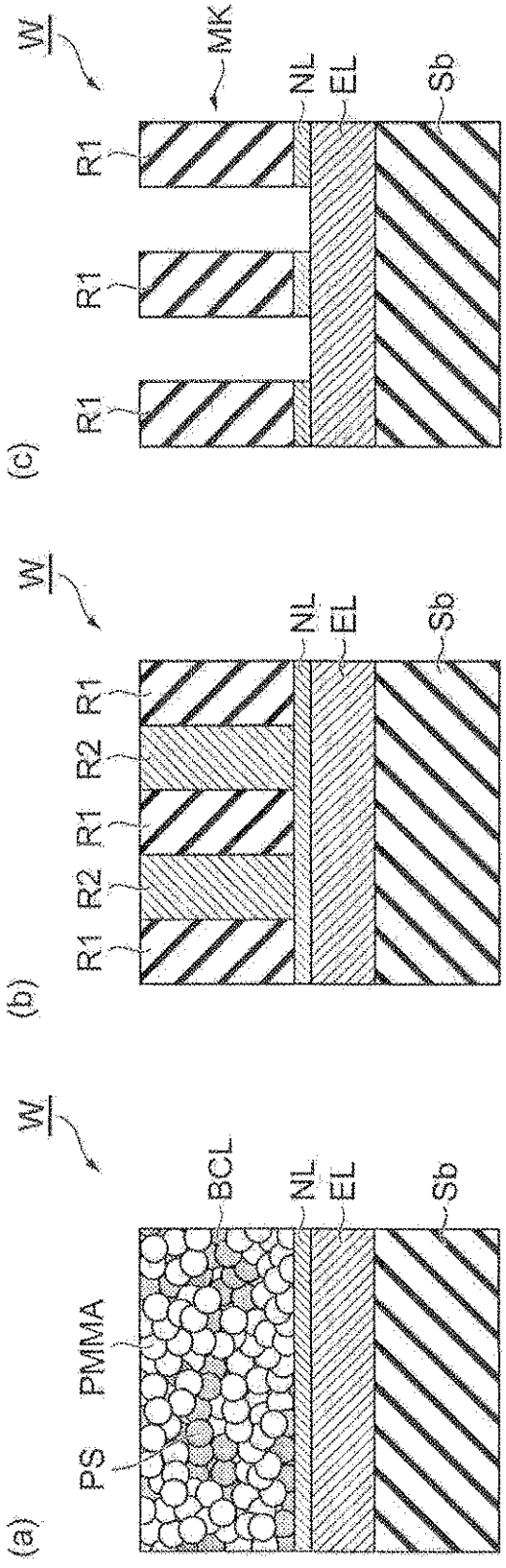


FIG. 3


(a)
W
PS
PMMA
BCL
NL
EL
Sb
(b)
W
R1
R2
R1
R2
R1
NL
EL
Sb
(c)
W
MK
R1
R1
R1
NL
EL
Sb

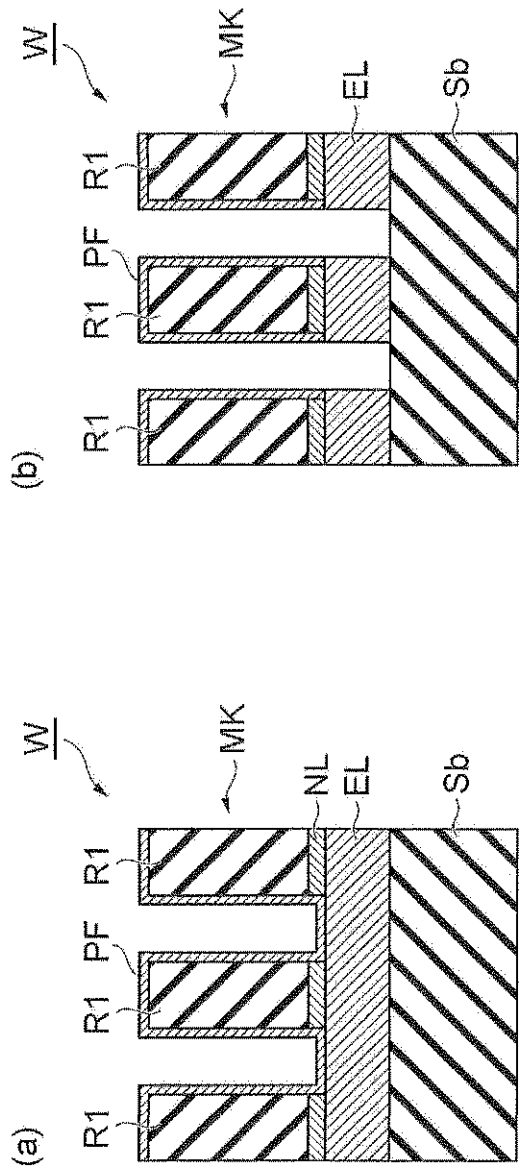


FIG. 4

FIG. 5

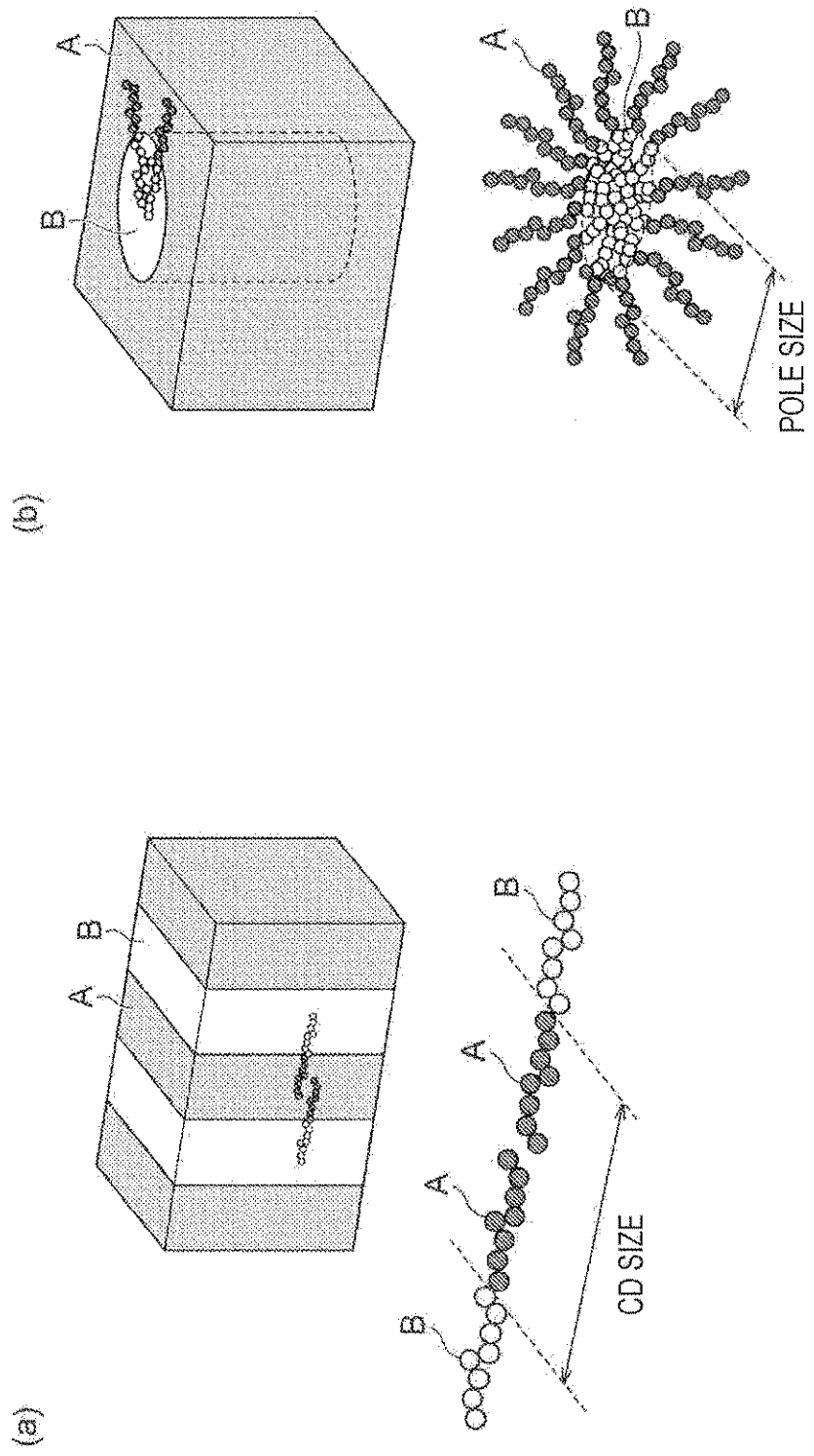


FIG. 6

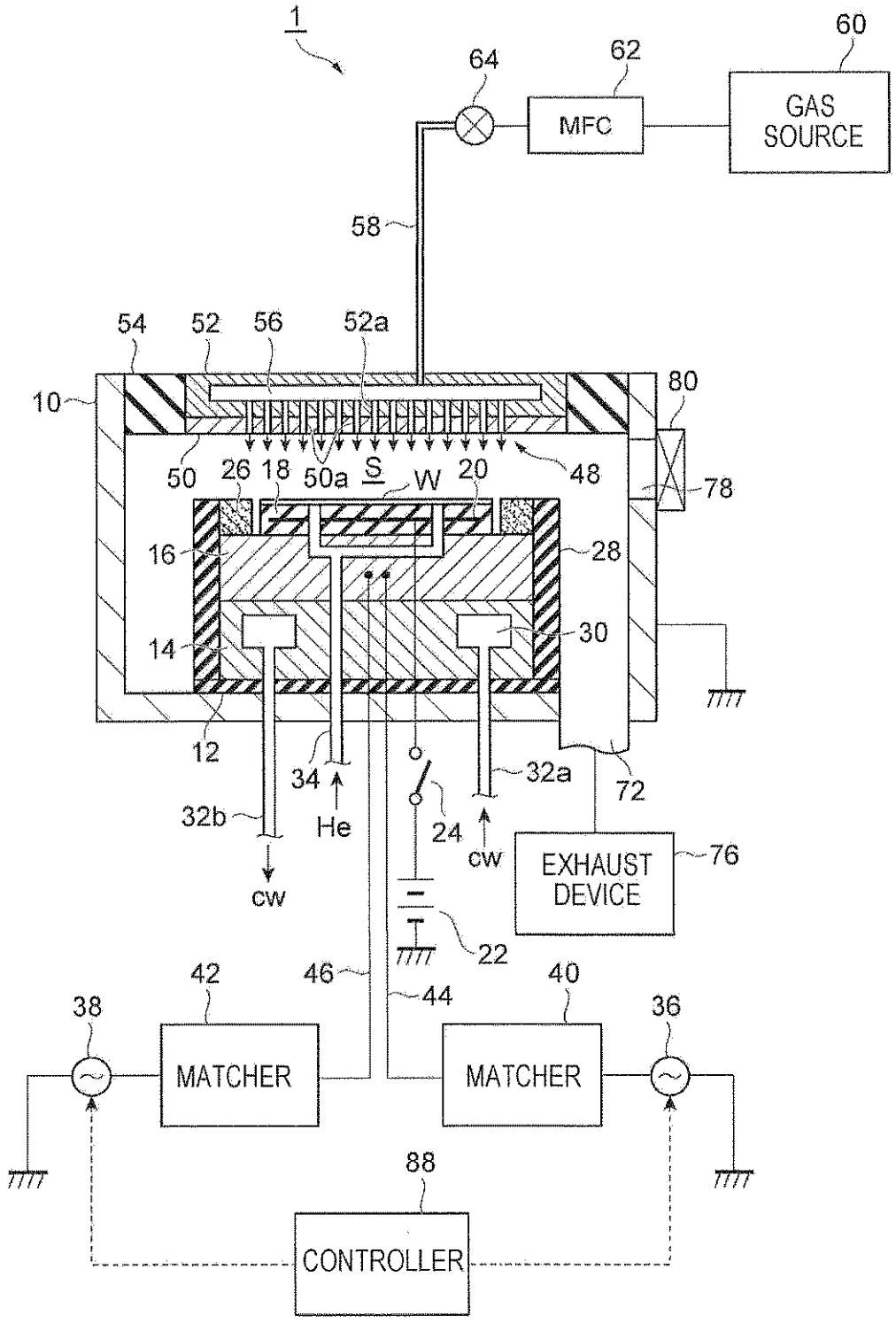
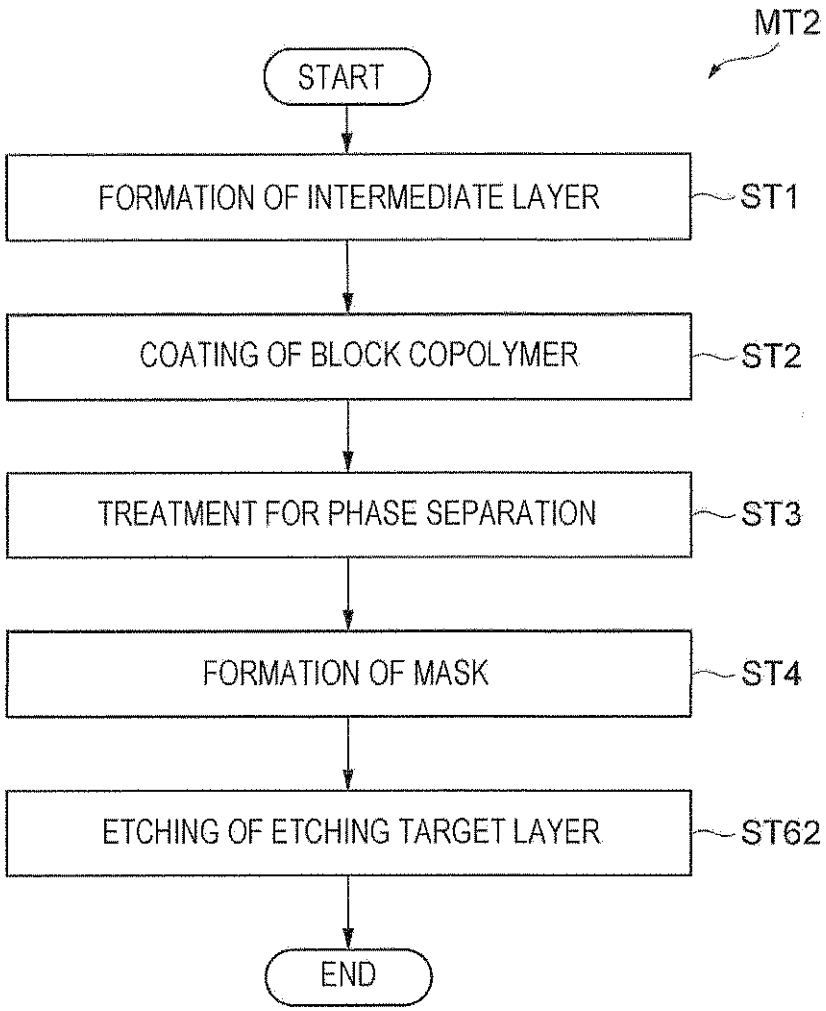

1
60
64
62
MFC
GAS SOURCE
58
54
52
56
52a
10
80
50
26
18
50a
S
W
20
48
78
16
28
14
30
12
34
He
32a
72
32b
cw
24
cw
EXHAUST DEVICE
76
22
42
46
44
40
38
36
MATCHER
MATCHER
88
CONTROLLER

FIG. 7


MT2
START
FORMATION OF INTERMEDIATE LAYER
ST1
COATING OF BLOCK COPOLYMER
ST2
TREATMENT FOR PHASE SEPARATION
ST3
FORMATION OF MASK
ST4
ETCHING OF ETCHING TARGET LAYER
ST62
END