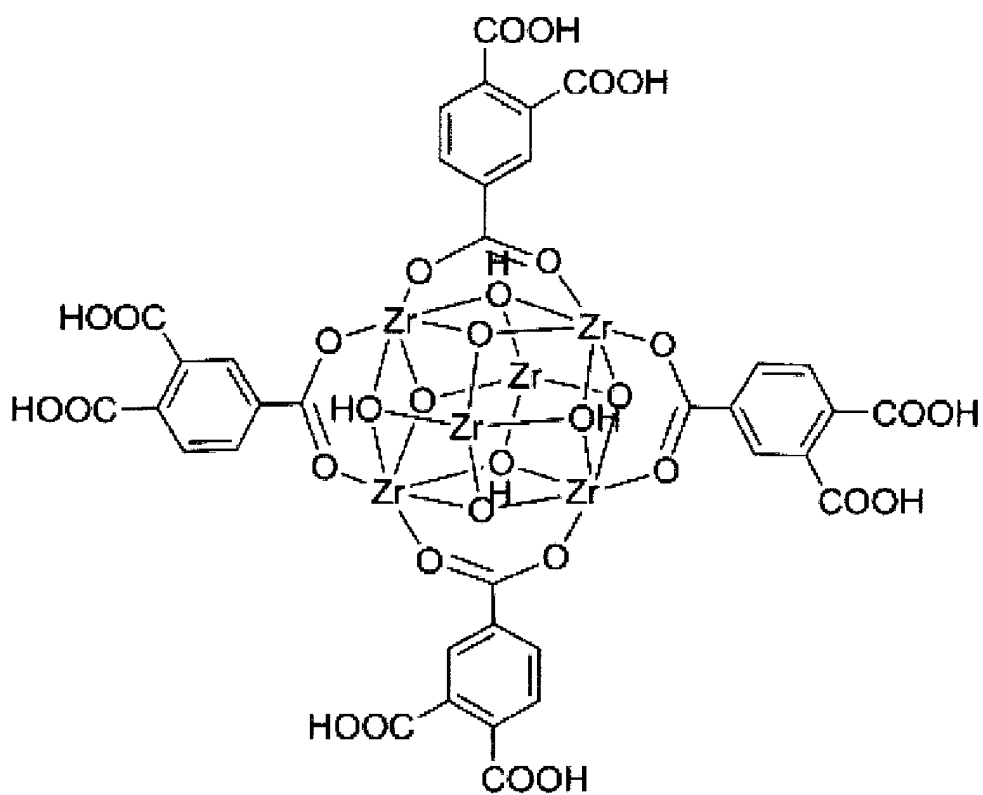


FIG. 1*FIG. 2*

COMPOUND	
1,2-BIS (TRIMETHOXYSYLYL) ETHANE	$(\text{CH}_3\text{O})_3\text{Si}(\text{CH}_2)_2\text{Si}(\text{OCH}_3)_3$
1,6-BIS (TRIMETHOXYSYLYL) HEXANE	$(\text{CH}_3\text{O})_3\text{Si}(\text{CH}_2)_6\text{Si}(\text{OCH}_3)_3$
1,8-BIS (TRIMETHOXYSYLYL) OCTANE	$(\text{CH}_3\text{O})_3\text{Si}(\text{CH}_2)_8\text{Si}(\text{OCH}_3)_3$

FIG. 3

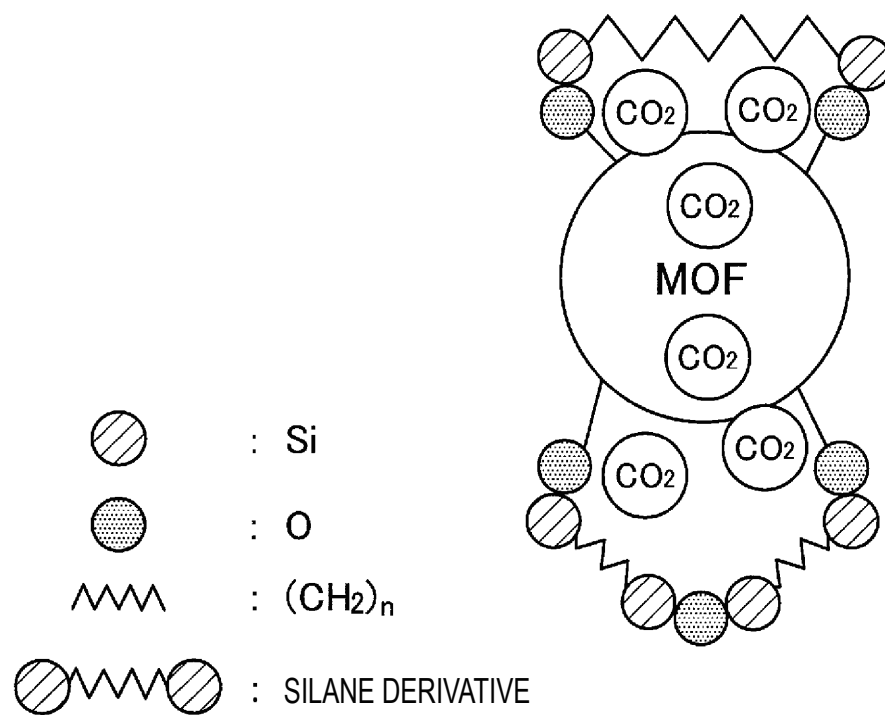


FIG. 4

	AMOUNT OF SILANE DERIVATIVE	AMOUNT OF BINDER	MOLDING STATE	MOLDING CONDITIONS
SAMPLE S1	2.5 wt%	-	TO-BE-SHAPED MOF MATERIAL POWDER	-
SAMPLE S2	5 wt%	-	TO-BE-SHAPED MOF MATERIAL POWDER	-
SAMPLE S3	10 wt%	-	TO-BE-SHAPED MOF MATERIAL POWDER	-
SAMPLE S4	5 wt%	-	COMPRESSION MOLDING (MEAN PARTICLE SIZE: 3 mm)	1 MPa, NO TAPPING
SAMPLE S5	5 wt%	5 wt% (PVP)	EXTRUSION (MEAN PARTICLE SIZE: 3 mm)	-
SAMPLE S6	2.5 wt%	5 wt% (PVP)	EXTRUSION (MEAN PARTICLE SIZE: 3 mm)	-
SAMPLE S7	2.5 wt%	10 wt% (PVP)	EXTRUSION (MEAN PARTICLE SIZE: 3 mm)	-
SAMPLE S8	5 wt%	20 wt% (PVP)	EXTRUSION (MEAN PARTICLE SIZE: 3 mm)	-
SAMPLE S9	5 wt%	-	COMPRESSION MOLDING (MEAN PARTICLE SIZE: 3 mm)	1 MPa, WITH TAPPING
SAMPLE S10	-	-	COMPRESSION MOLDING (MEAN PARTICLE SIZE: 3 mm)	5 MPa, WITH TAPPING
SAMPLE S11	-	-	MOF POWDER	-

FIG. 5A

SAMPLE S2 (SILANE DERIVATIVE 5 wt%)

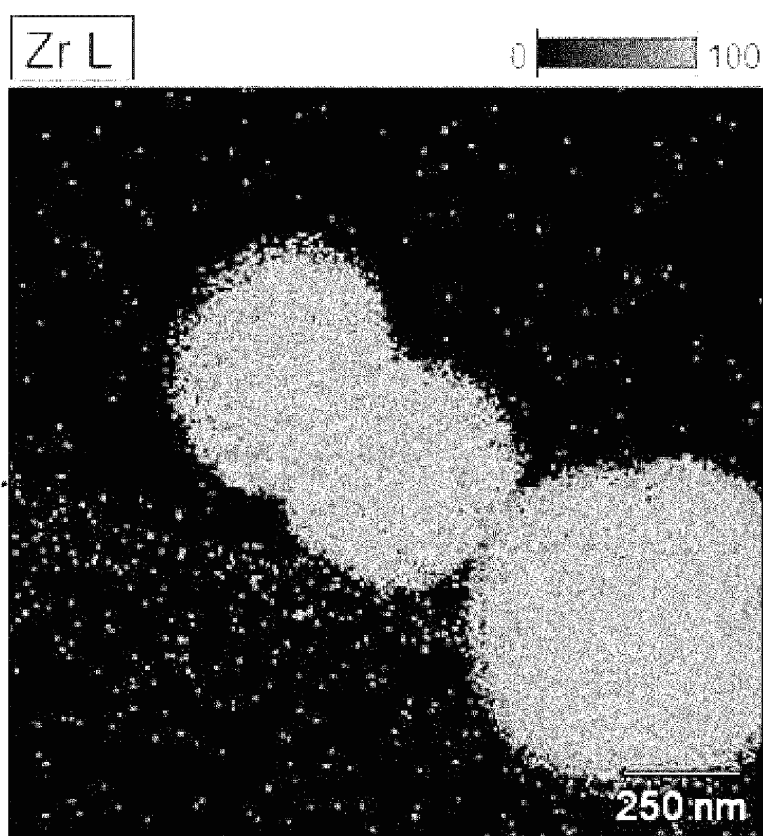


FIG. 5B

SAMPLE S2 (SILANE DERIVATIVE 5 wt%)

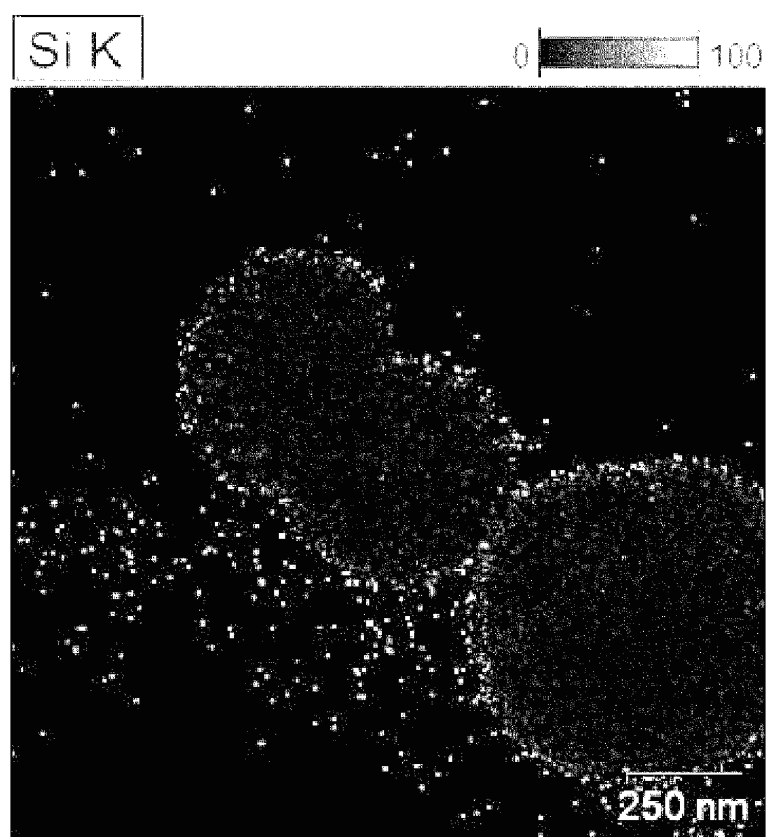


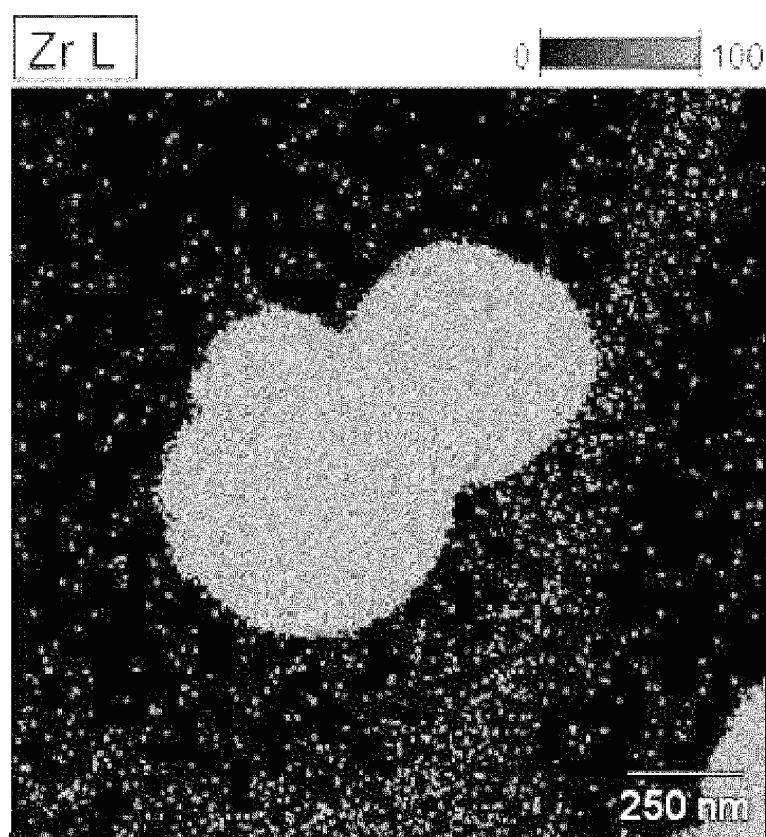
*FIG. 6A*SAMPLE S11 (MOF)

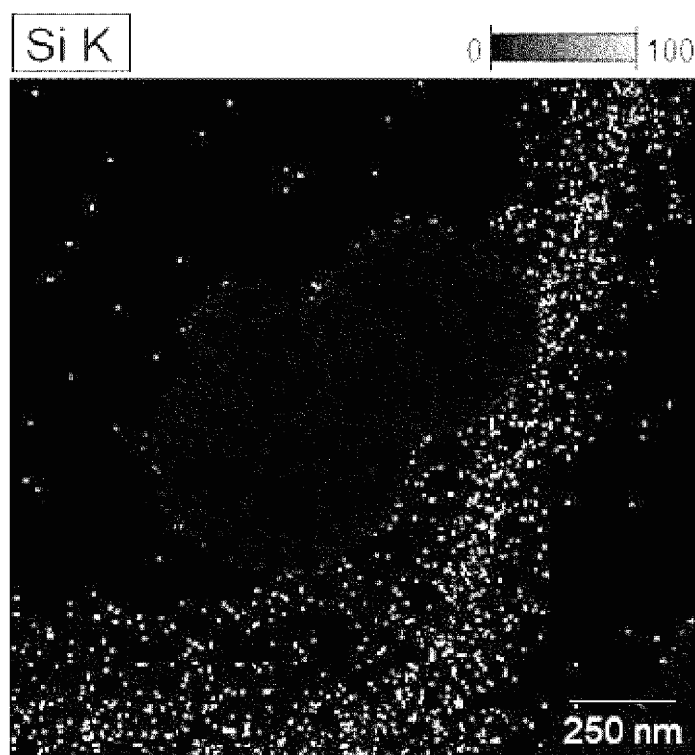
*FIG. 6B*SAMPLE S11 (MOF)

FIG. 7

	SAMPLE S11 (NO SILANE DERIVATIVE)	SAMPLE S1 (SILANE DERIVATIVE 2.5 WT%)	SAMPLE S2 (SILANE DERIVATIVE 5 WT%)	SAMPLE S3 (SILANE DERIVATIVE 10 WT%)
ATOMIC FRACTION	Zr:Si=0.99:0.01	Zr:Si=0.96:0.04	Zr:Si=0.94:0.06	Zr:Si=0.95:0.05
	Zr:Si=0.99:0.01	Zr:Si=0.98:0.02	Zr:Si=0.95:0.05	Zr:Si=0.96:0.04

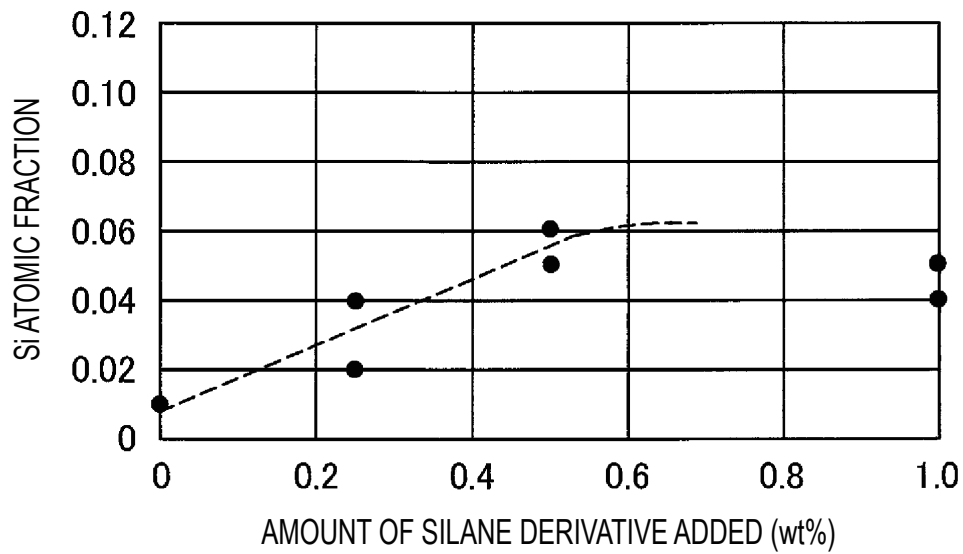
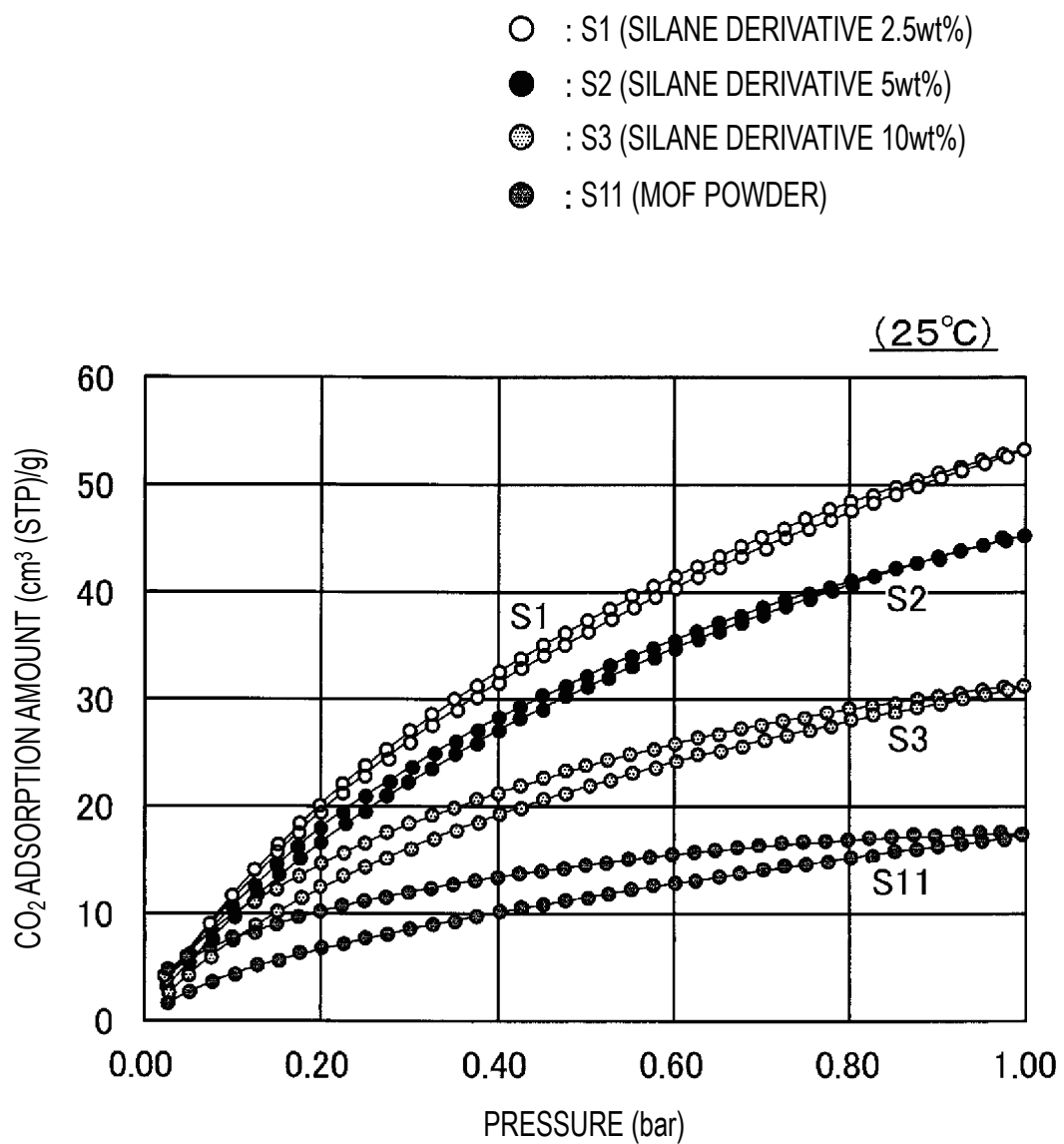
FIG. 8**FIG. 9**

FIG. 10

(0°C)

	SAMPLE S11 (NO SILANE DERIVATIVE)	SAMPLE S2 (SILANE DERIVATIVE, 5wt%)	SAMPLE S4 (SILANE DERIVATIVE, 5wt%) (COMPRESSIVE MOLDING, φ 3mm)	SAMPLE S5 (SILANE DERIVATIVE, 5wt%) (EXTRUSION, φ 3mm)
BET SPECIFIC SURFACE AREA (m ² /g)	776,715	763	686	638,753
CO ₂ ADSORPTION AMOUNT (cm ³ (STP)/g)	32	74 (2.3 TIMES)	69 (2.15 TIMES)	76 (2.4 TIMES)

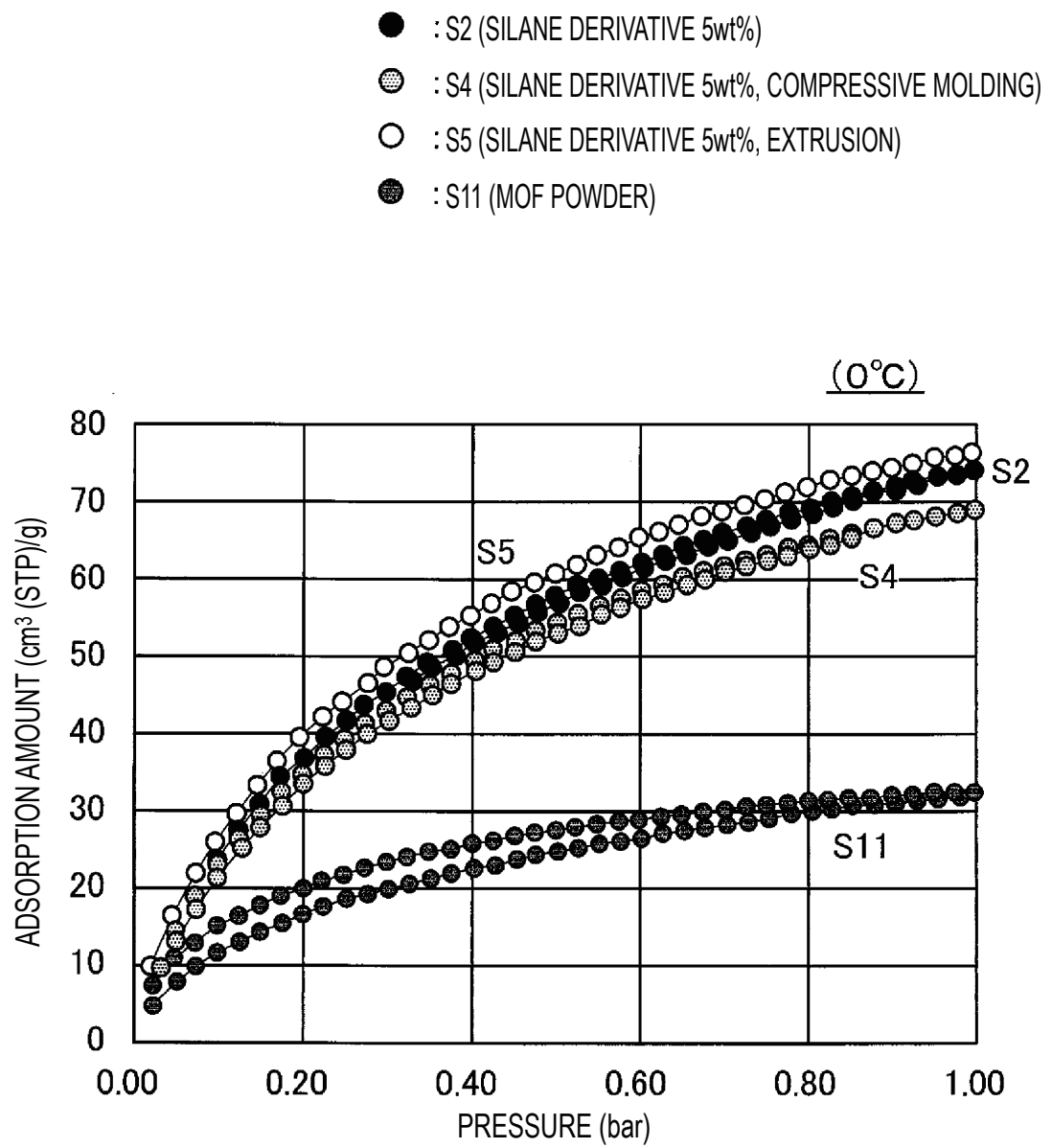
FIG. 11

FIG. 12

(25°C)

	SAMPLE S11 (NO SILANE DERIVATIVE)	SAMPLE S2 (SILANE DERIVATIVE, 5wt%)	SAMPLE S4 (SILANE DERIVATIVE, 5wt%) (COMPRESSIVE MOLDING, φ 3mm)	SAMPLE S5 (SILANE DERIVATIVE, 5wt%) (EXTRUSION, φ 3mm)
BET SPECIFIC SURFACE AREA (m ² /g)	776,715	763	686	638,753
CO ₂ ADSORPTION AMOUNT (cm ³ (STP)/g)	17	53 (3.1 TIMES)	45 (2.65 TIMES)	53 (3.1 TIMES)

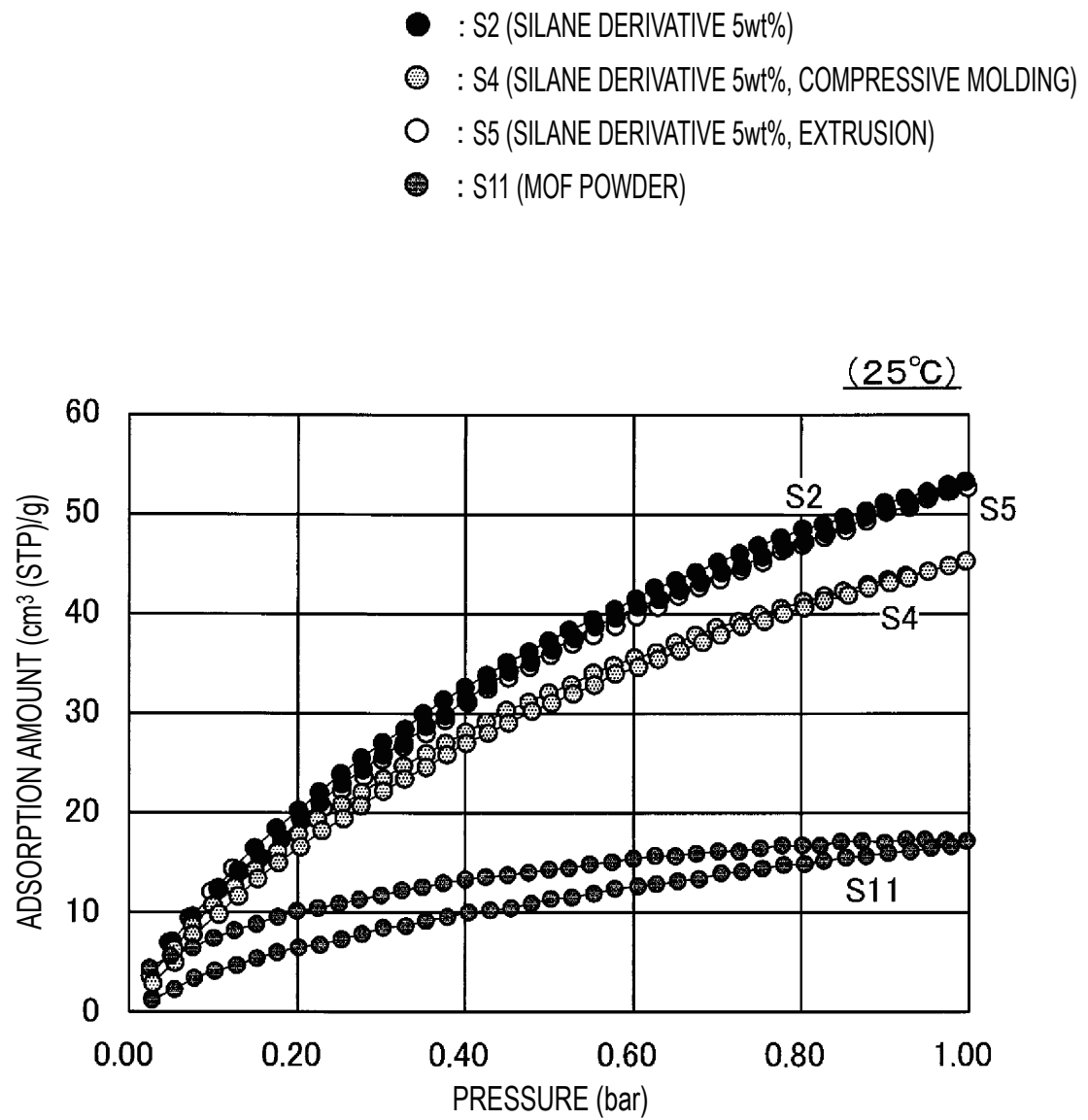
FIG. 13

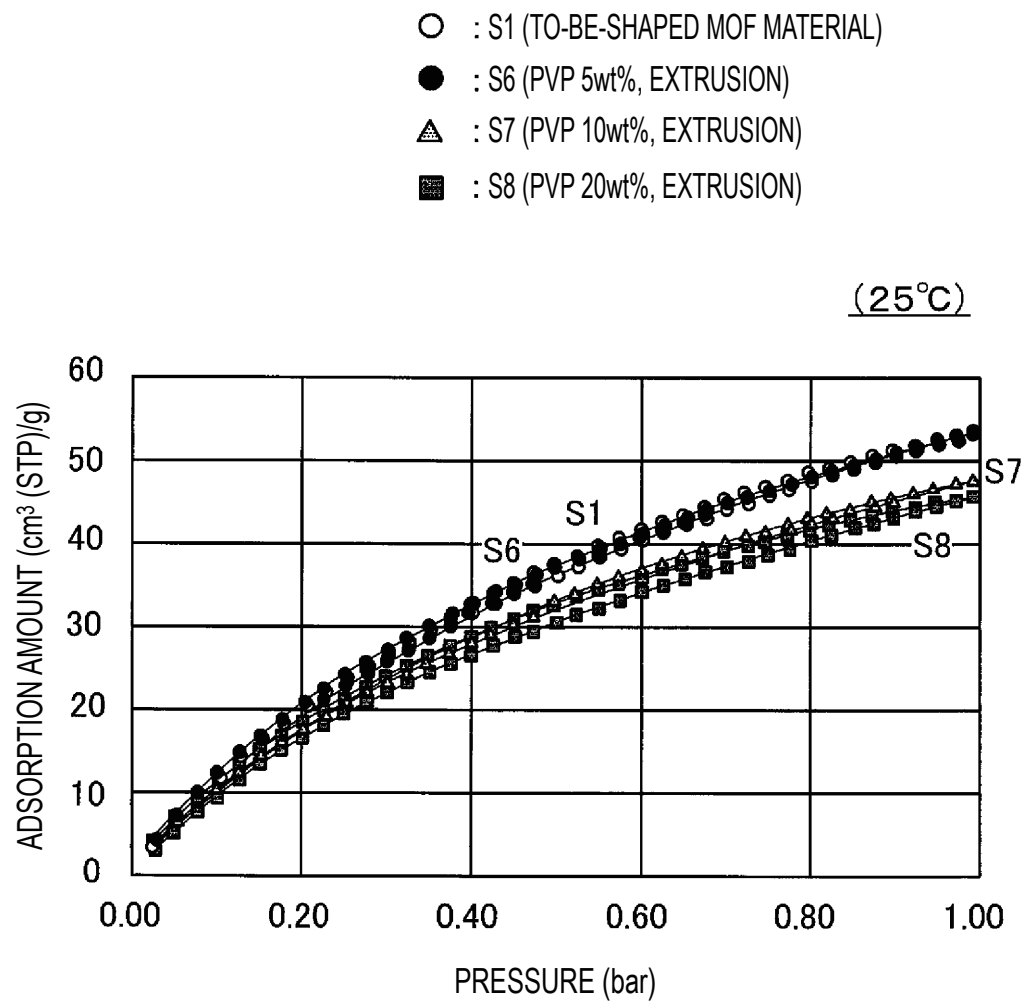
FIG. 14

FIG. 15