

## Supporting Information

# 1,10-Phenanthroline-based periodic mesoporous organosilica: from its synthesis to its application in the cobalt-catalyzed alkyne hydrosilylation

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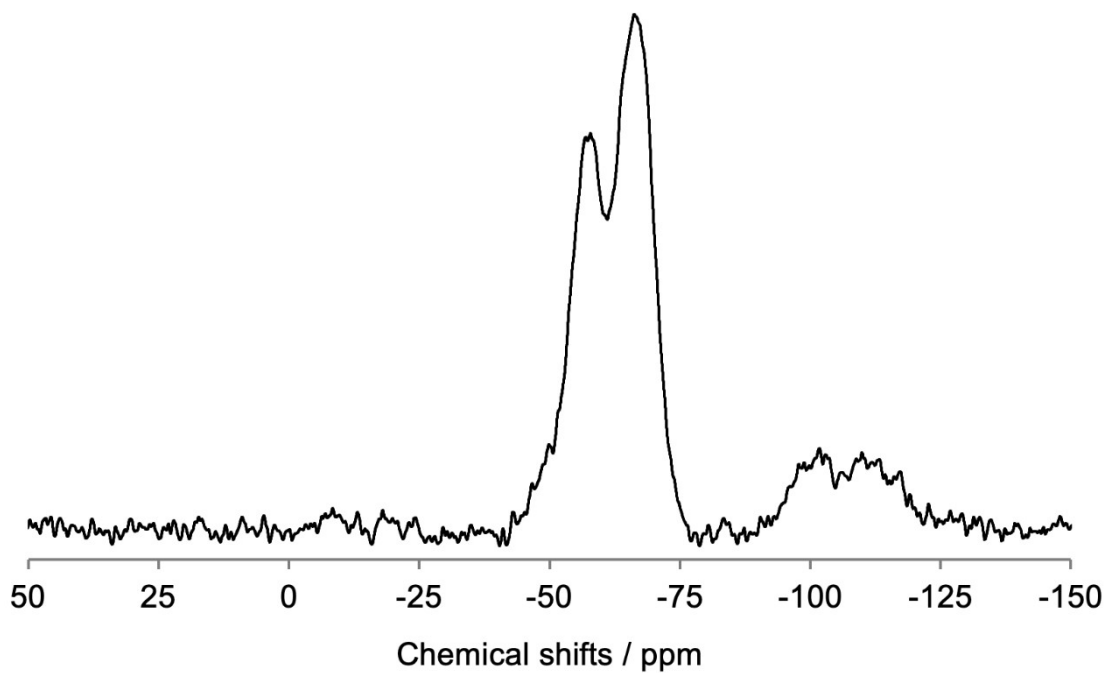
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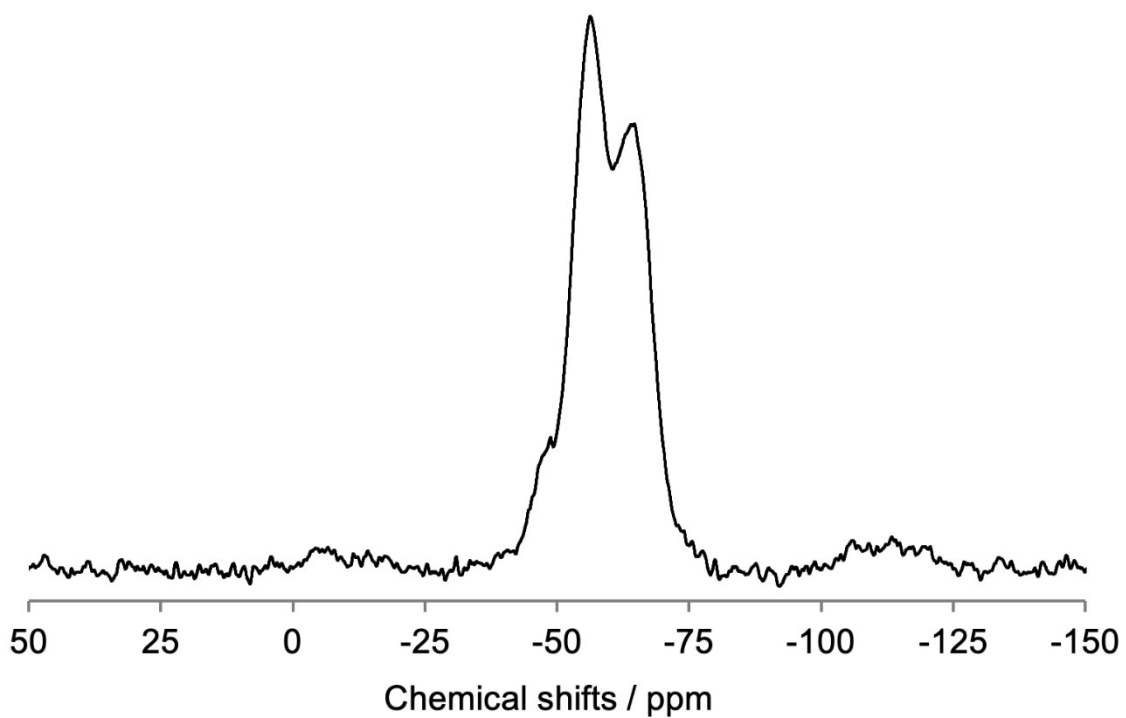
<sup>c</sup> Toyota Central R&D Labs., Inc., Nagakute, Aichi 480-1192, Japan.

## CONTENTS

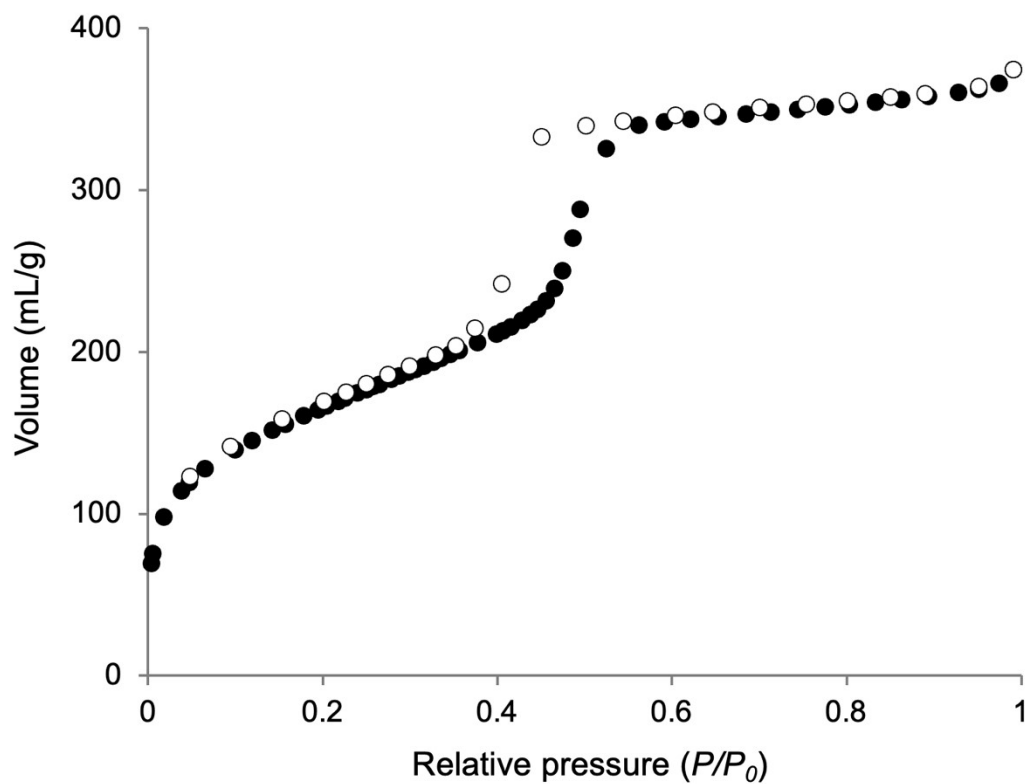
<sup>29</sup> Si DD/MAS NMR spectrum of Phen-PMO prepared with C <sub>22</sub> TMACl (Fig. S1) .....	S2
<sup>29</sup> Si DD/MAS NMR spectrum of Phen-PMO prepared with Brij76 (Fig. S2) .....	S2
N <sub>2</sub> adsorption/desorption isotherm of Phen-PMO prepared with Brij76 (Fig. S3) .....	S3
TEM images of Phen-PMO prepared with Brij76 (Fig. S4).....	S3
<sup>13</sup> C CP/MAS NMR spectrum of Phen-PMO <b>3</b> (Fig. S5) .....	S4
<sup>29</sup> Si CP/MAS NMR spectrum of Phen-PMO <b>3</b> (Fig. S6) .....	S4
Solution-state NMR Spectra of <b>1a</b> (Fig. S7-9) .....	S5
Optimization of hydrosilylation conditions (Table S1) .....	S6



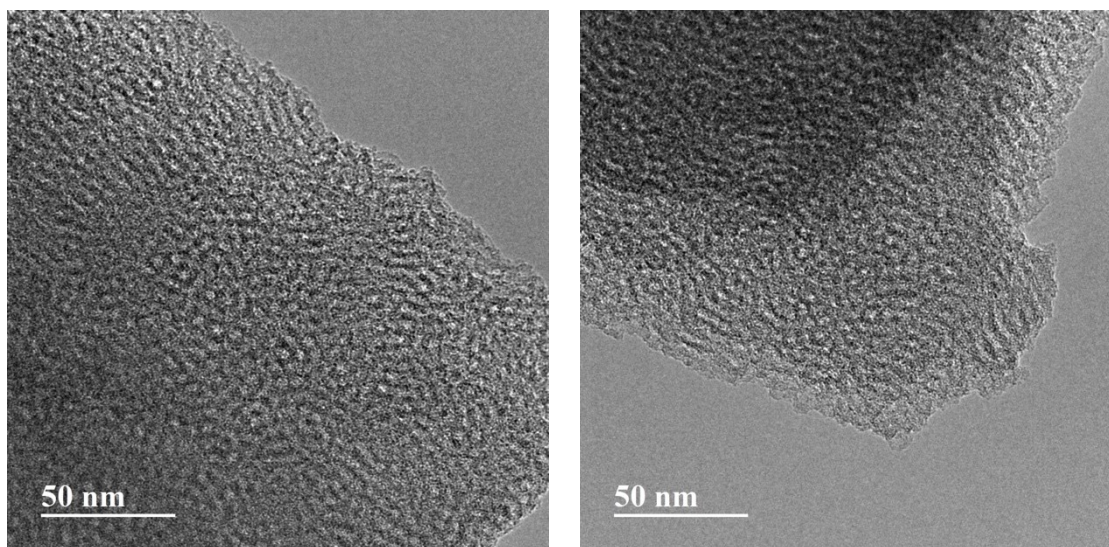
**Fig. S1**  $^{29}\text{Si}$  DD/MAS NMR spectrum of Phen-PMO prepared with  $\text{C}_{22}\text{TMACl}$ .



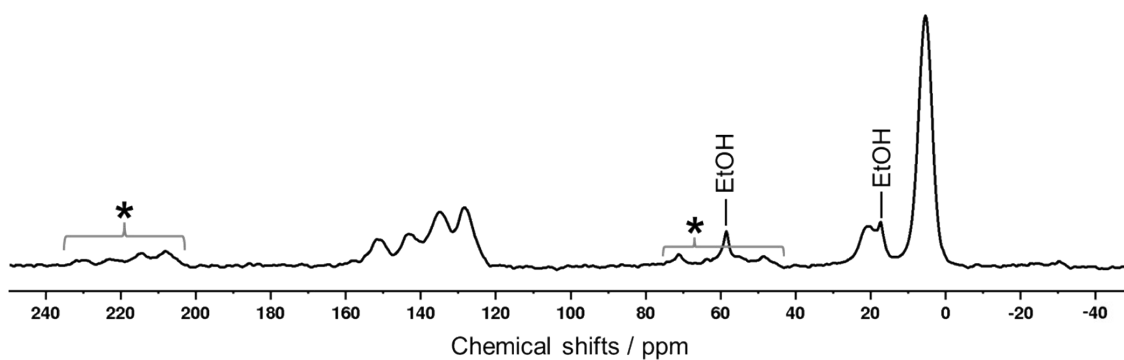
**Fig. S2**  $^{29}\text{Si}$  DD/MAS NMR spectrum of Phen-PMO prepared with Brij76.



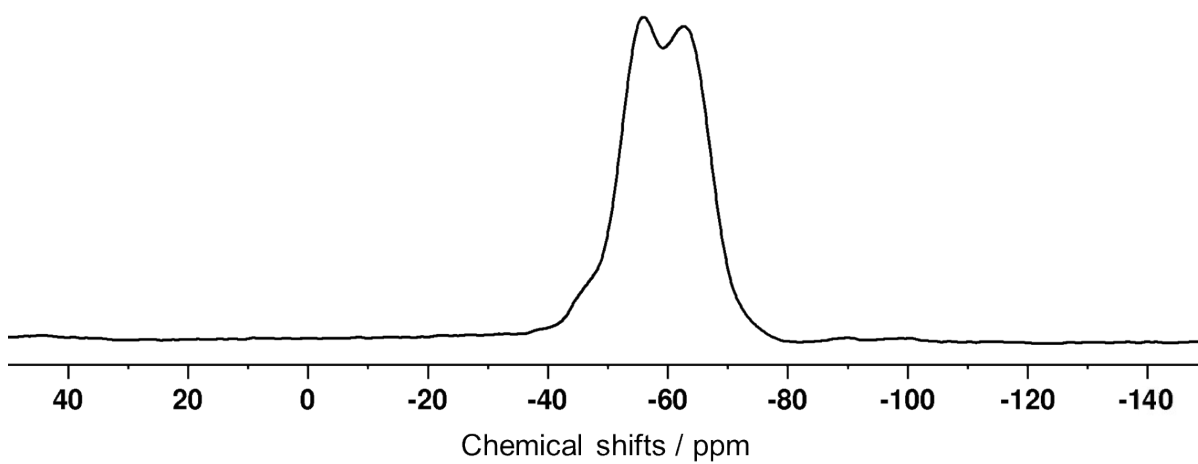
**Fig. S3** N<sub>2</sub> adsorption/desorption isotherm of Phen-PMO prepared with Brij76.



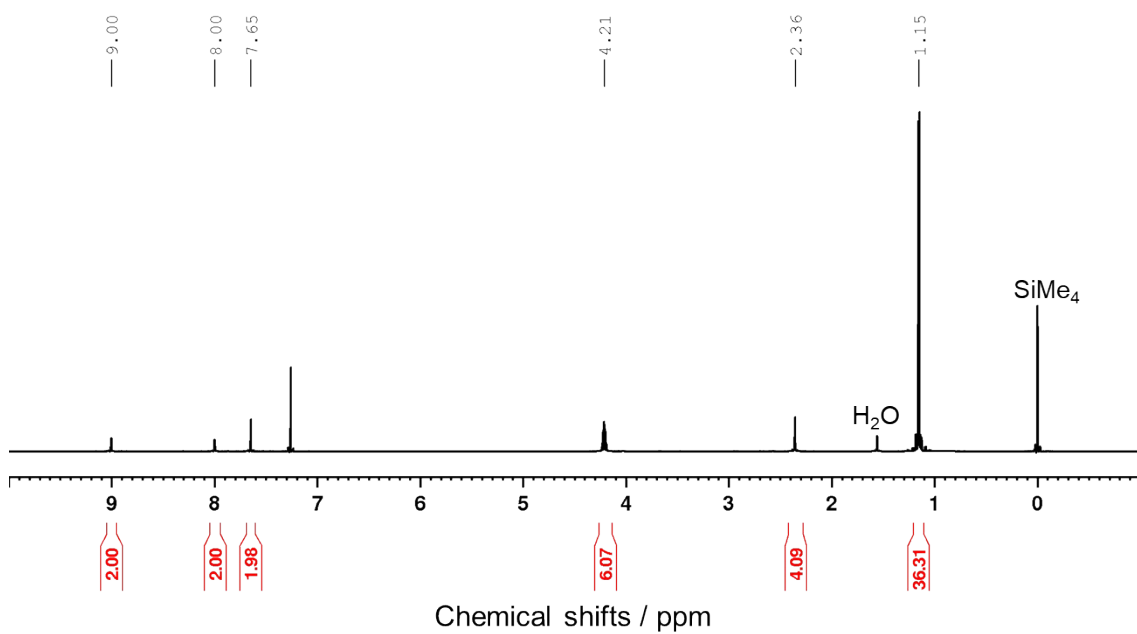
**Fig. S4** TEM images of Phen-PMO prepared with Brij76.



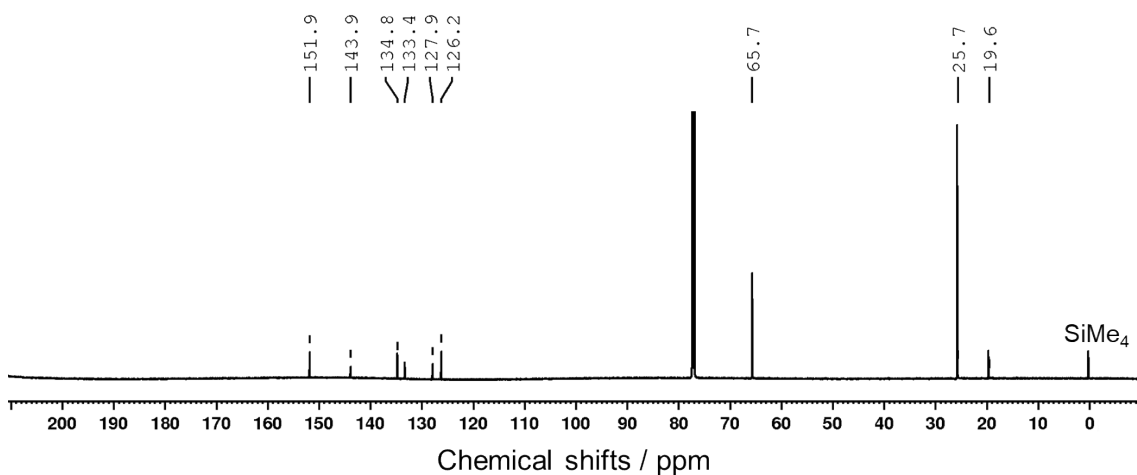
**Fig. S5**  $^{13}\text{C}$  CP/MAS NMR spectrum of Phen-PMO **3**. The asterisk (\*) denotes spinning side bands.



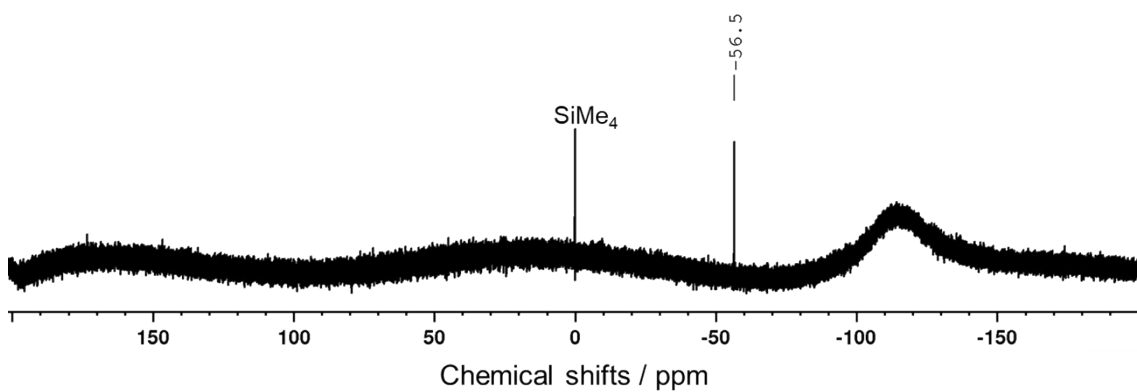
**Fig. S6**  $^{29}\text{Si}$  CP/MAS NMR spectrum of Phen-PMO **3**.



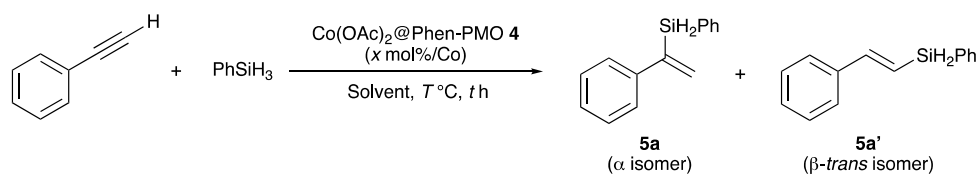
**Fig. S7**  $^1\text{H}$  NMR spectrum of **1a**.



**Fig. S8**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of **1a**.



**Fig. S9**  $^{29}\text{Si}\{^1\text{H}\}$  NMR spectrum of **1a**.

**Table S1** Optimization of hydrosilylation conditions.

Entry	Solvent	$T$ ( $^{\circ}\text{C}$ )	$t$ (h)	$x$ (mol%/Co)	Yield (%)	<b>5a:5a'</b>
1	THF	60	2	0.5	37	5:1
2	THF	60	6	0.5	54	3:1
3	THF	100	2	0.5	65	3:1
4	THF	100	2	2	67	4:1
5	Toluene	100	2	0.5	53	3:1
6 <sup>a</sup>	THF	100	2	—	ND <sup>b</sup>	—

<sup>a</sup>Phen-PMO **3** was used instead of  $\text{Co(OAc)}_2@$ Phen-PMO **4**. <sup>b</sup>Not detected.