



## Supplementary Materials

CO<sub>2</sub> Adsorption on the N- and P-Modified Mesoporous Silicas

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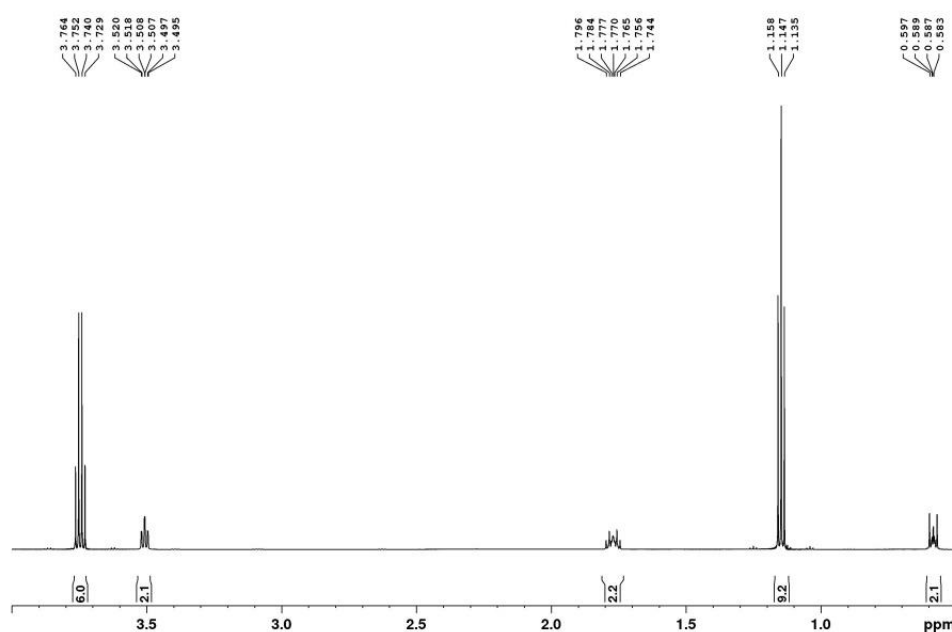


Figure S1. <sup>1</sup>H NMR spectrum of SAPTES in the spectral region from 4 ppm to 0.4 ppm.

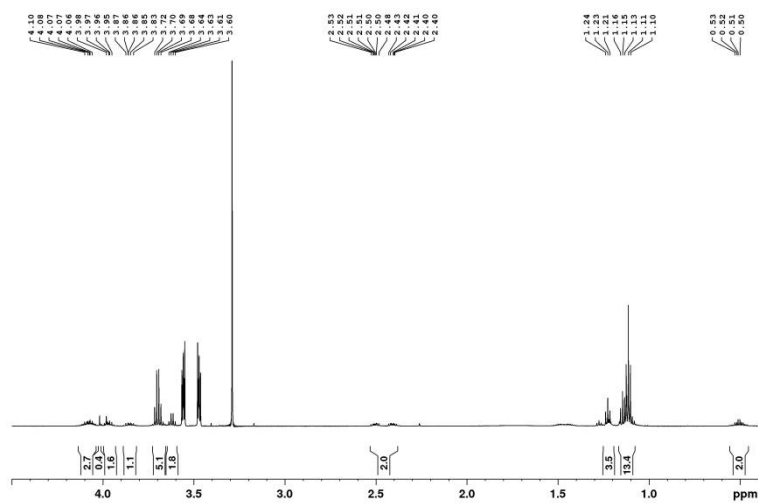


Figure S2. <sup>1</sup>H NMR spectrum of PAPTES in the spectral region from 4.5 ppm to 0.4 ppm.

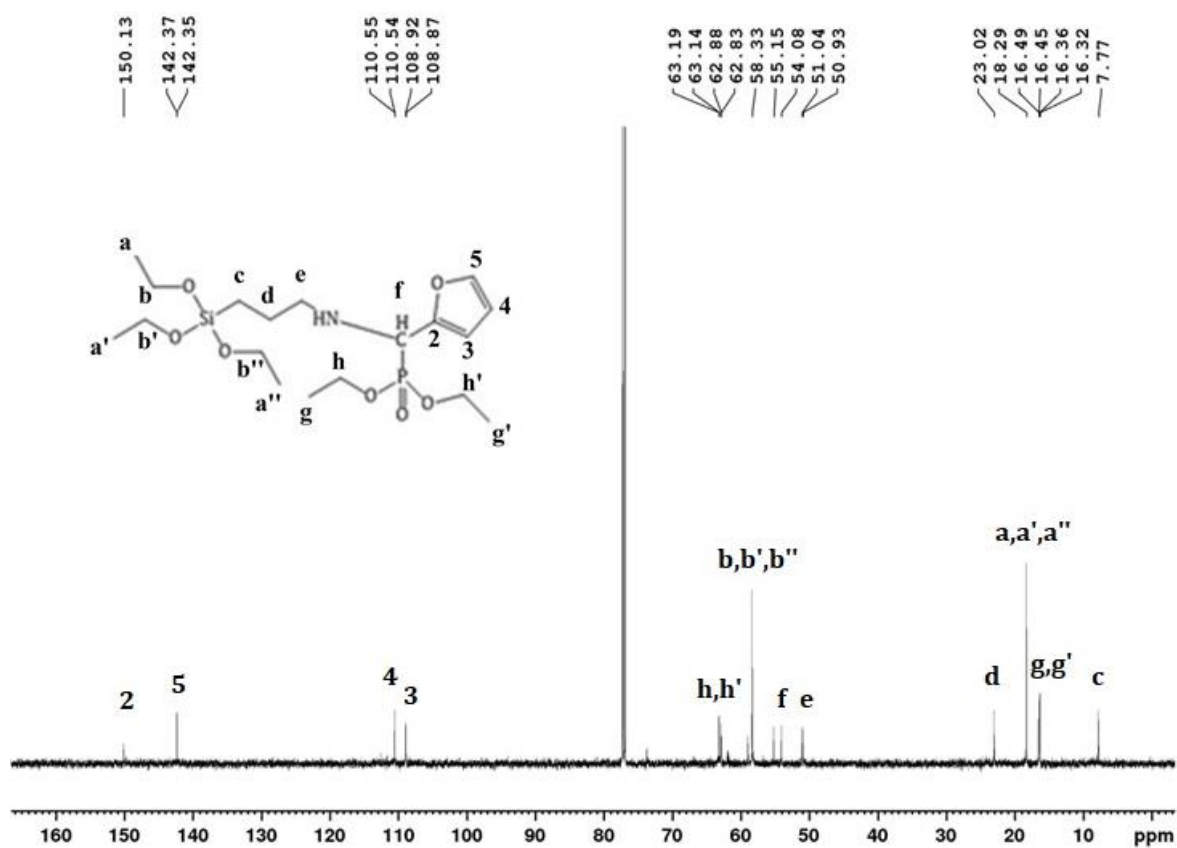


Figure S3. <sup>13</sup>C{H} NMR spectrum of PAPTES.

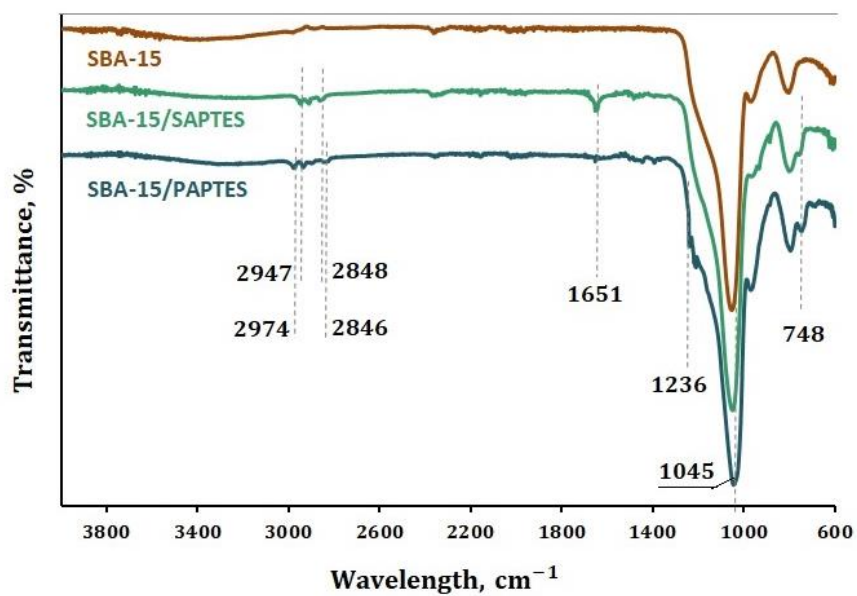


Figure S4. IR spectra of SBA-15, SBA-15/SAPTES and SBA-15/PAPTES.

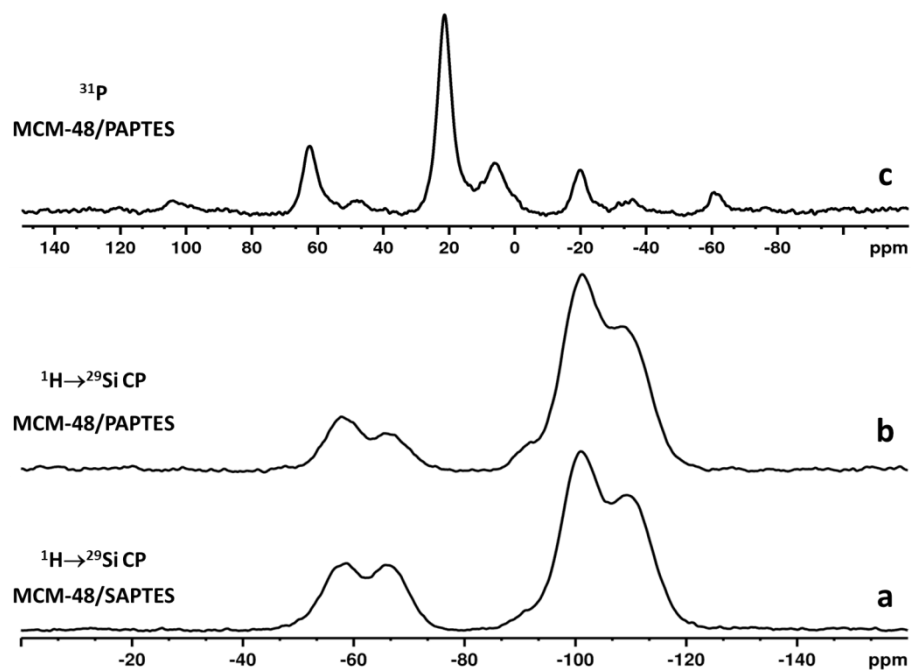


Figure S5. <sup>1</sup>H-><sup>29</sup>Si CP MAS NMR spectra of (a) SAPTES and (b) PAPTES; (c) <sup>31</sup>P spectrum of PAPTES.

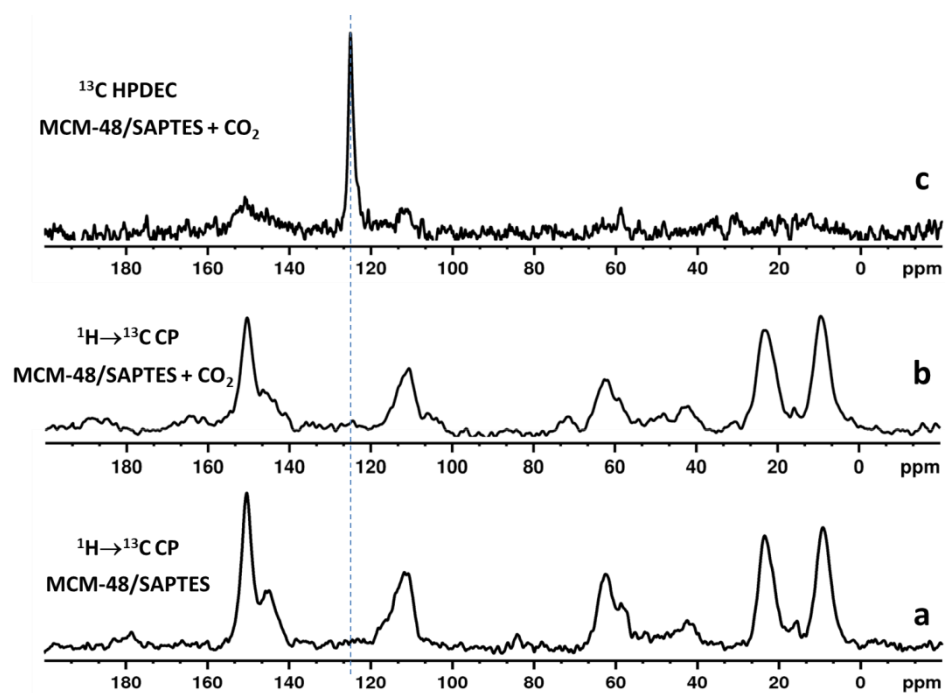


Figure S6. (a)  $^1\text{H} \rightarrow ^{13}\text{C}$  CP MAS NMR spectrum of SAPTES; (b)  $^1\text{H} \rightarrow ^{13}\text{C}$  CP MAS NMR spectrum of  $\text{CO}_2$  loaded SAPTES; (c)  $^{13}\text{C}$  HPDEC spectrum of  $\text{CO}_2$  loaded SAPTES.

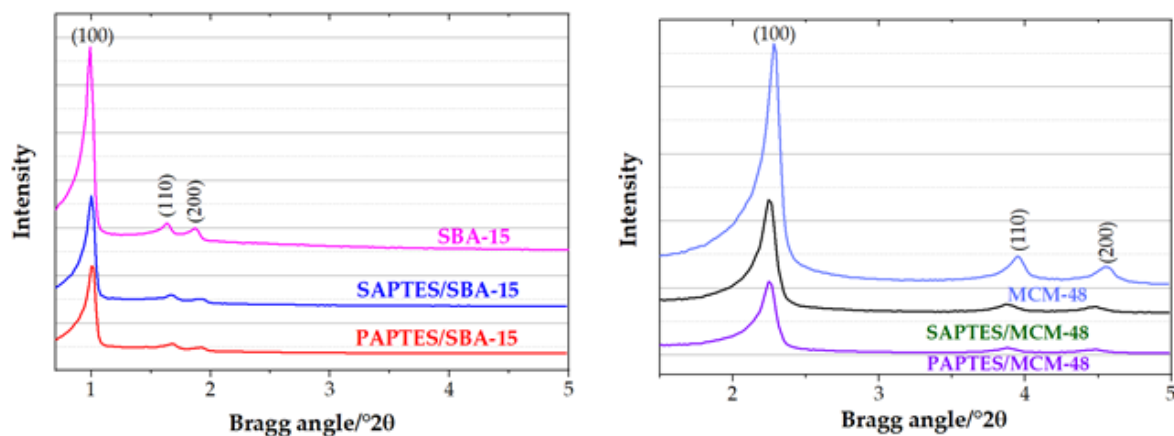
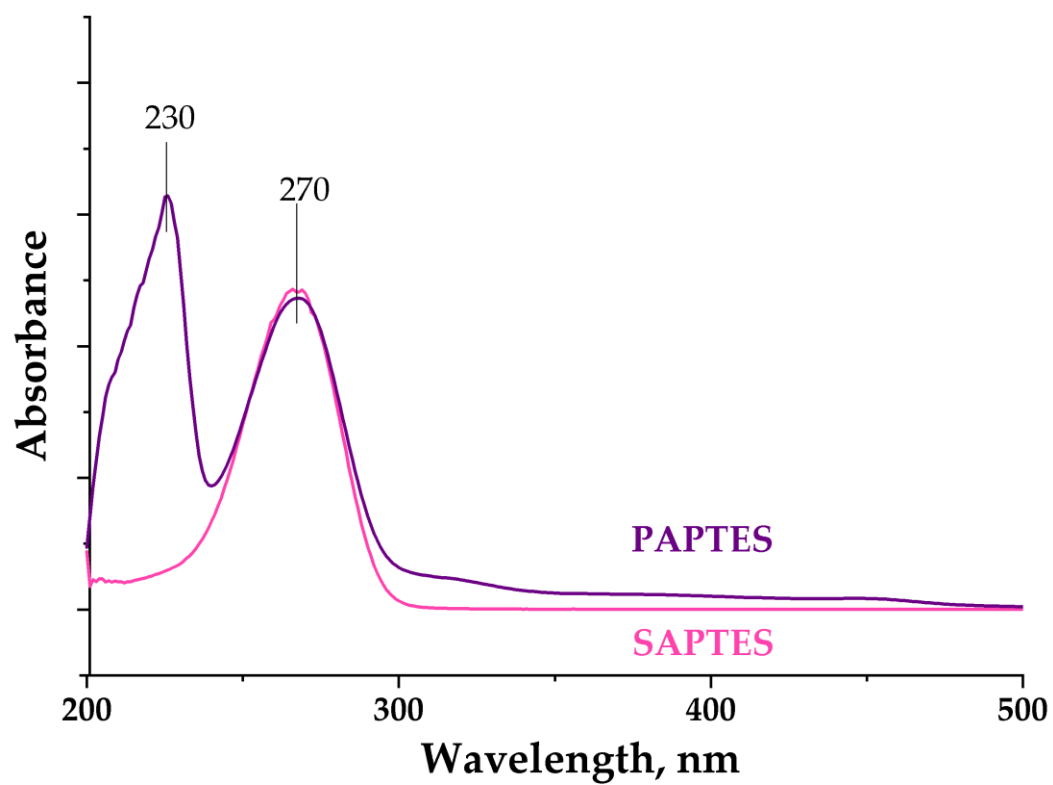


Figure S7. XRD of the initial and the modified SBA-15 and MCM-48 materials.



**Figure S8.** UV spectra of SAPTES and PAPTES.