Covalent Grafting of Organic-Inorganic Polyoxometalates Hybrids onto Mesoporous SBA-15: A Key Step for New Anchored Homogeneous Catalysts.

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Supplementary Informations

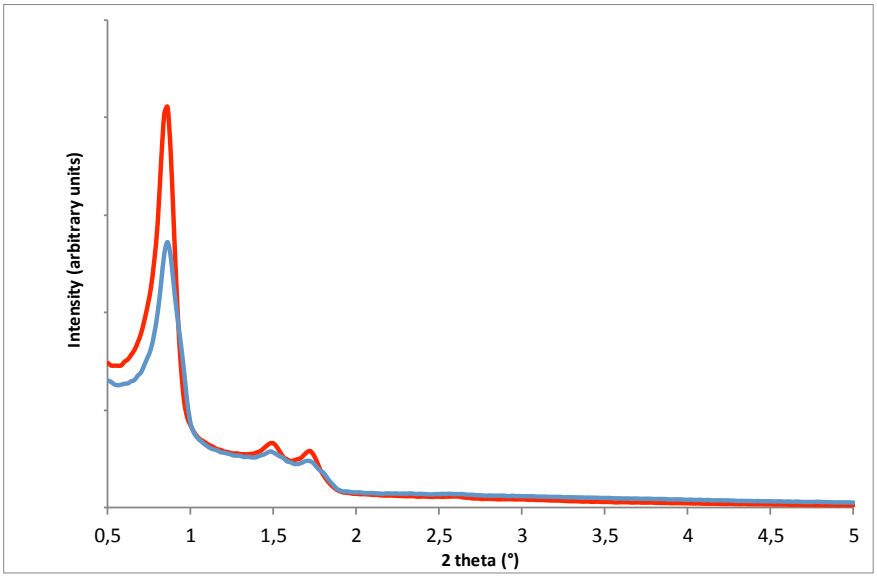

Figure S1: Small-angle X-Ray diffractograms of SBA-15 (in red) and SBA-NH_2 (2 mmol.g^{-1}, in blue).

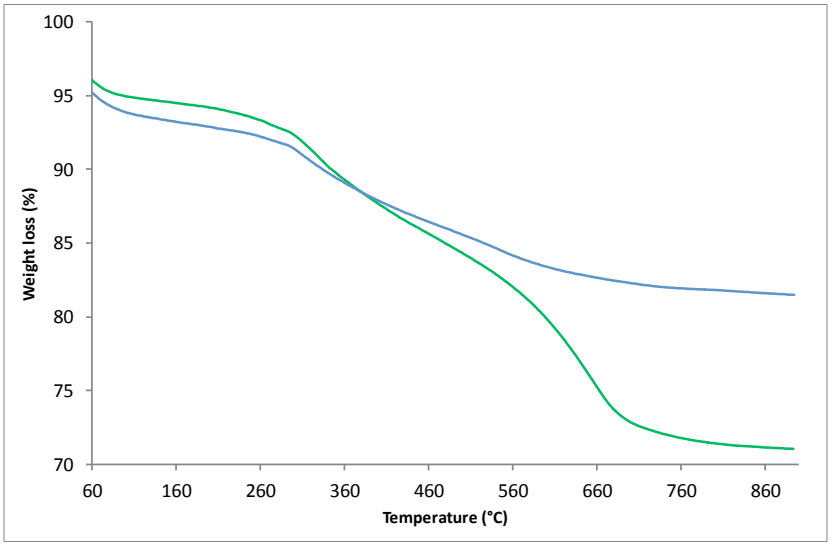

Figure S2: Thermogravimmetric curves of SBA-NH_2 samples with 2 mmol.g^{-1} (in blue) and 4 mmol.g^{-1} of –NH_2 groups (in green). (10°C.min^{-1}, under air 100 mL.min^{-1})

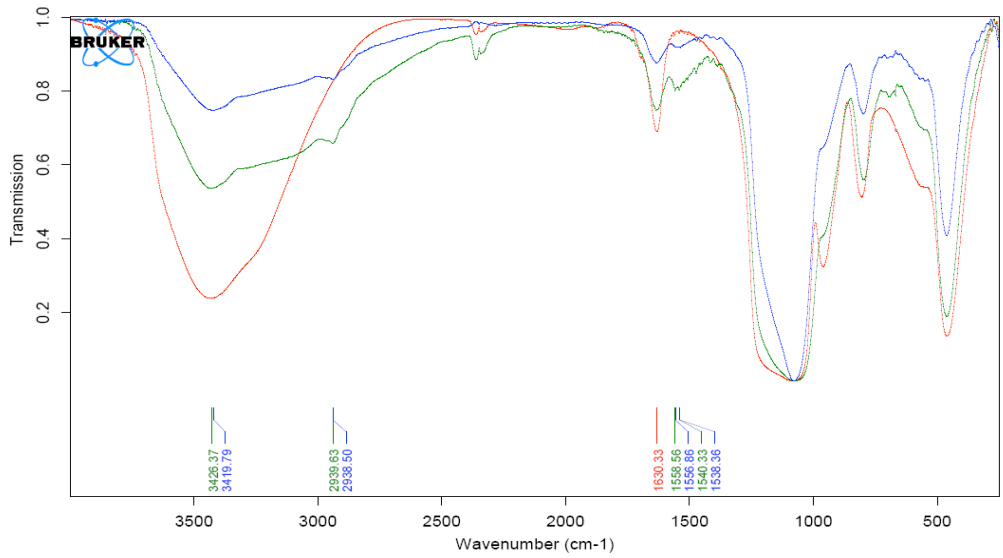

Figure S3: Infrared spectra of SBA-15 (in red) and SBA-NH2 samples with 2 mmol.g^{-1} (in blue) and 4 mmol.g^{-1} (in green).

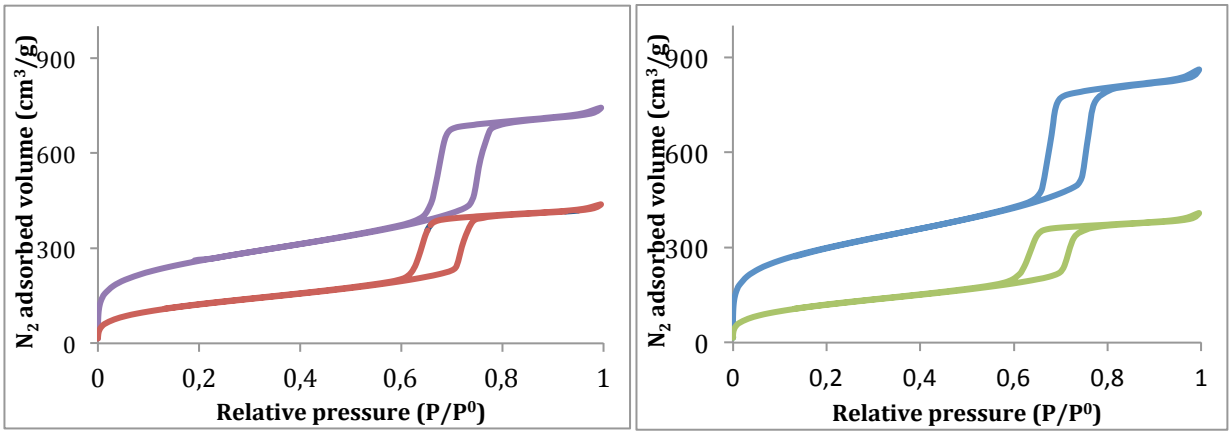

Figure S4: Comparison of N_2 sorption isotherms of SBA-NH_2 samples (2 mmol.g^{-1} (in red) and 4 mmol.g^{-1} (in green)) with those of their parent SBA-15 supports.

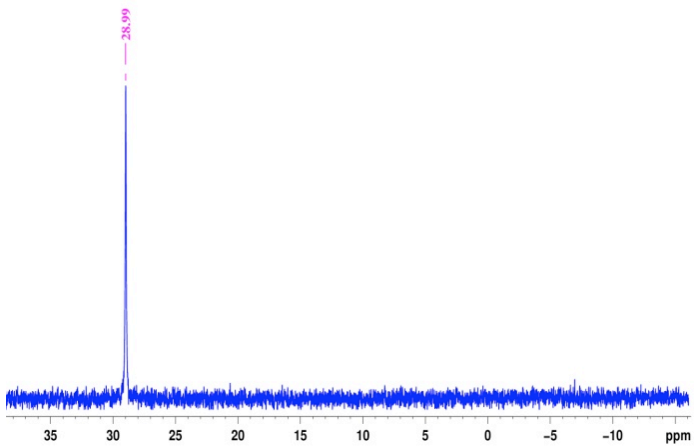

Figure S5: {^{1}H} ^{31}P NMR spectrum of TBA_3NaH(**1**) [acetone-D_6]

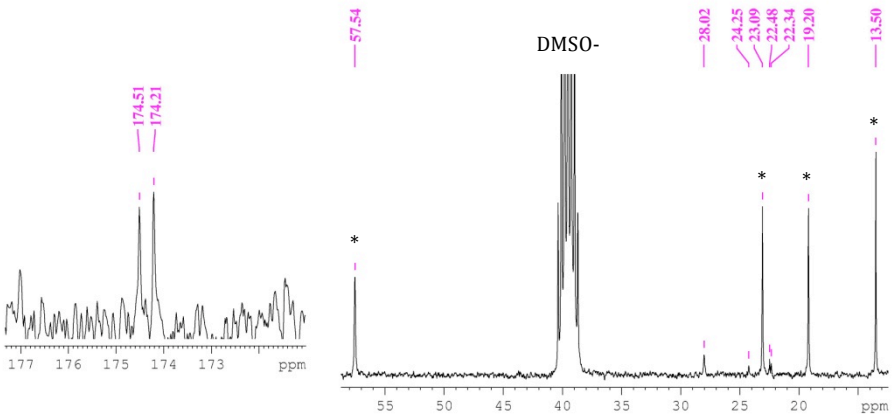

Figure S6: $\{^{1}H\}$ ^{13}C NMR spectrum of TBA_3NaH(**1**) [DMSO-D_6]. The lines assigned to the tetrabutylammonium ions are indicated by a star.

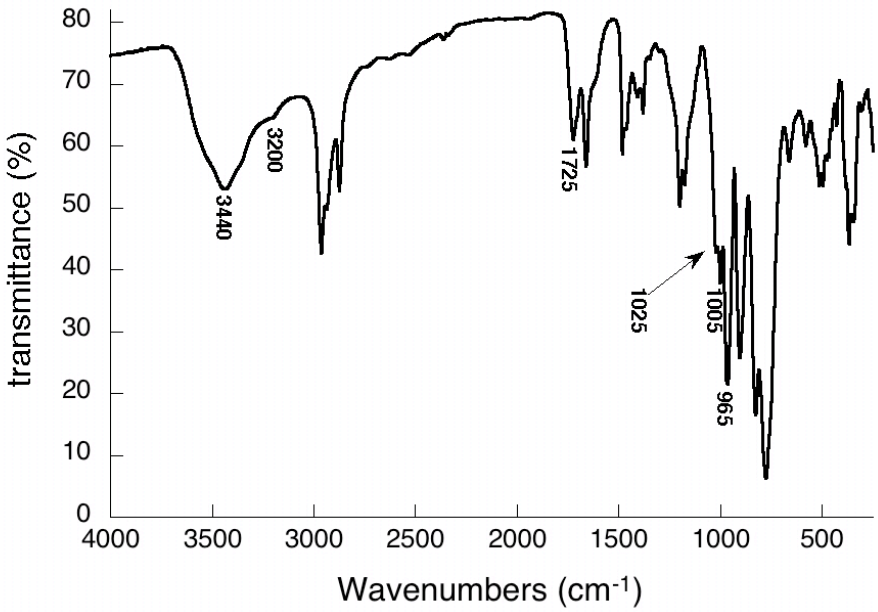

Figure S7: IR spectrum of TBA_3NaH(**1**)

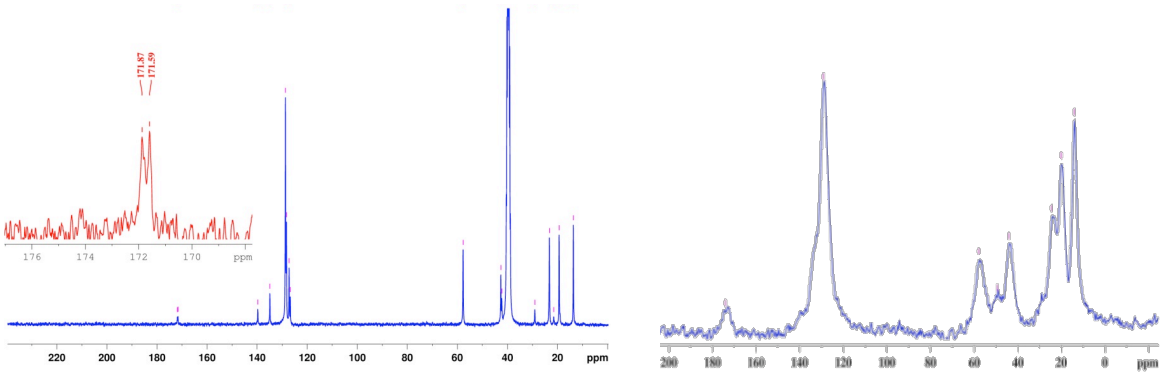

Fig. S8: $^{13}C\{^{1}H\}$ NMR spectrum of $TBA_xNa_yEt_3NH_z$(**2**)-[DMSO-d^6] (left) and in the solid state - CP MAS - (right).

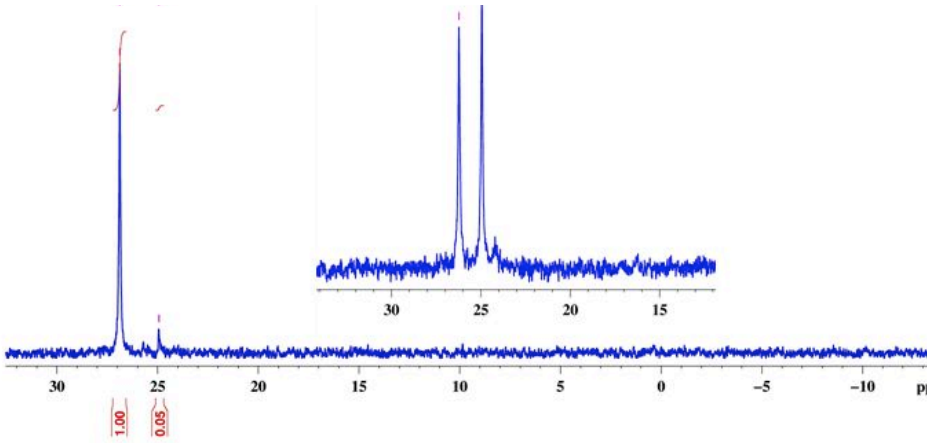

Fig. S9: ^{31}P NMR spectrum of the $TBA_xNa_y(Et_3NH)_z$(**2**)-[DMSO-d^6] (mother liquor). Insert: the same after addition of one equivalent of TBA_3NaH(**1**).

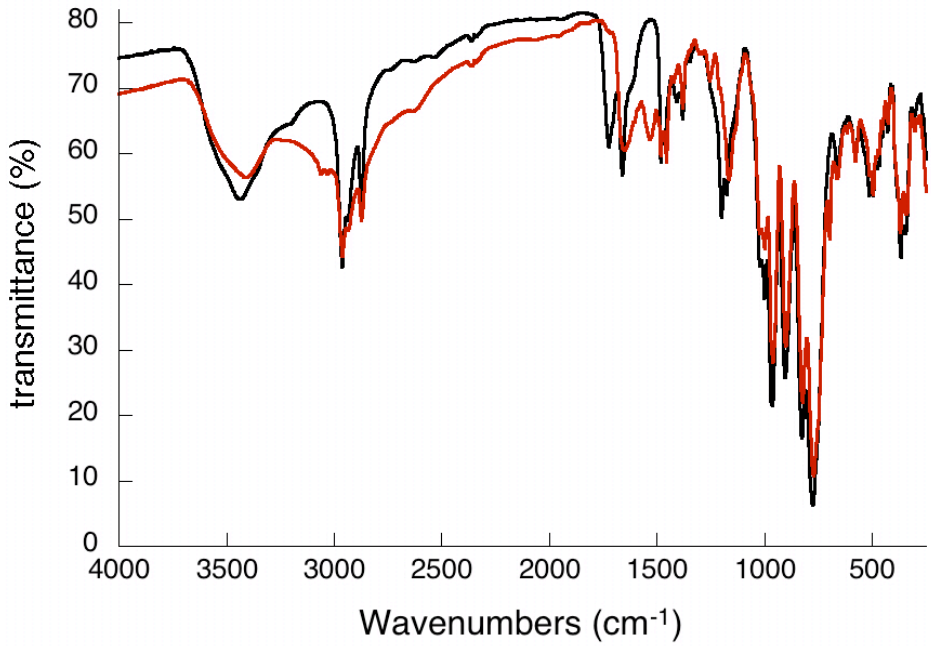

Figure S10: Comparison of IR spectra of TBA_3NaH(**1**) (black) and $TBA_xNa_y(Et_3NH)_z$(**2**) (red).

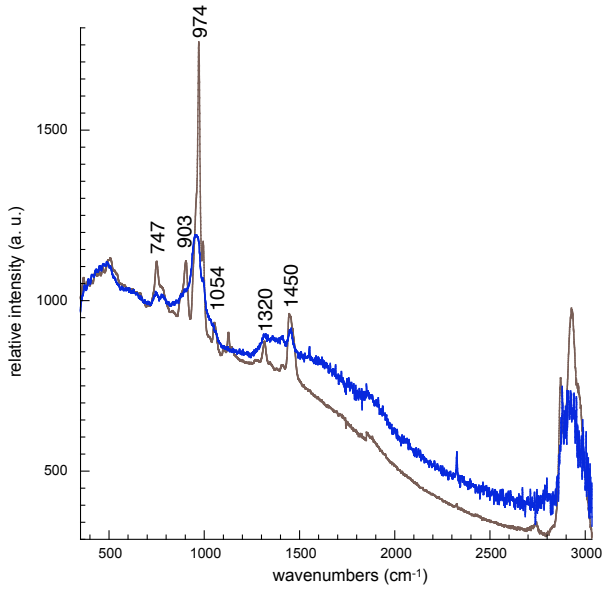

Figure S11: Raman spectra of pure TBA_3NaH(**1**) (in brown) and of **1**-grafted onto NH_2-functionalized SBA 15 silica (in blue).

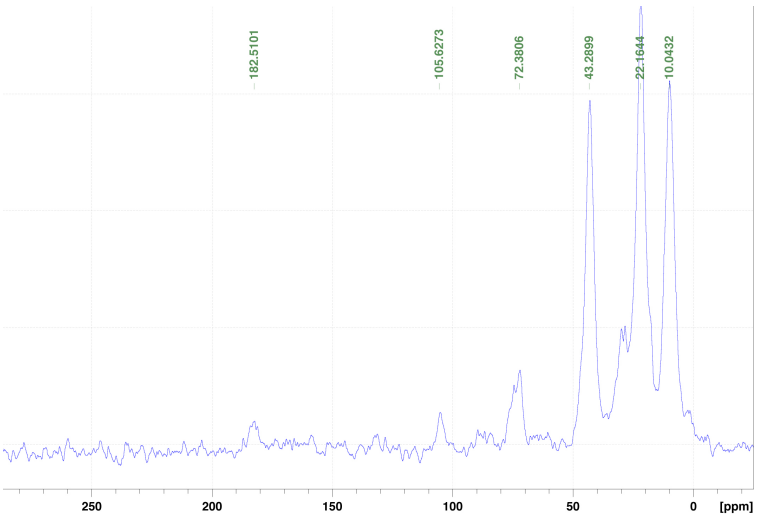

Figure S12: Solid state CP MAS ^{13}C NMR spectrum of TBA_3NaH(**1**) obtained by simple deposition of a solution (acetonitrile) of TBA_3NaH(**1**) onto the $-NH_2$ functionalized SBA-15 (materials A).