Design of Heterogeneous Catalysts Via Multiple Active Site Positioning in Organic-Inorganic Hybrid Materials

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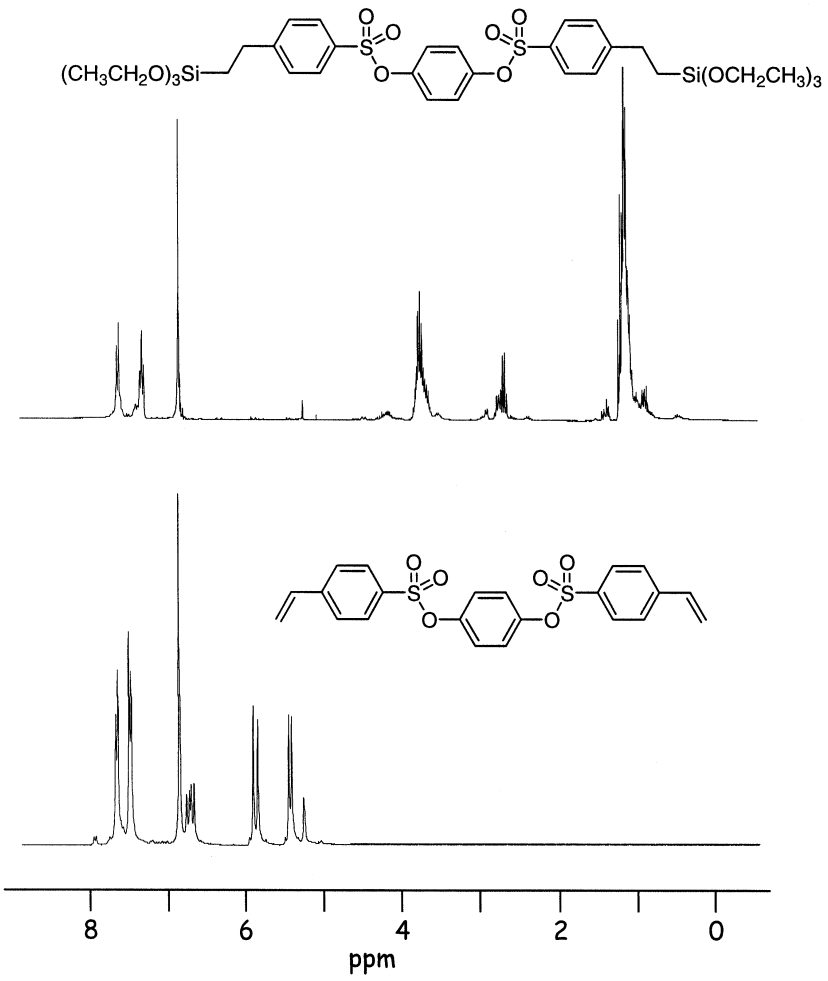
Supporting Information for the Journal of American Chemical Society



^{1}H NMR (CD_2Cl_2): Hydrosilylation reaction of **5**

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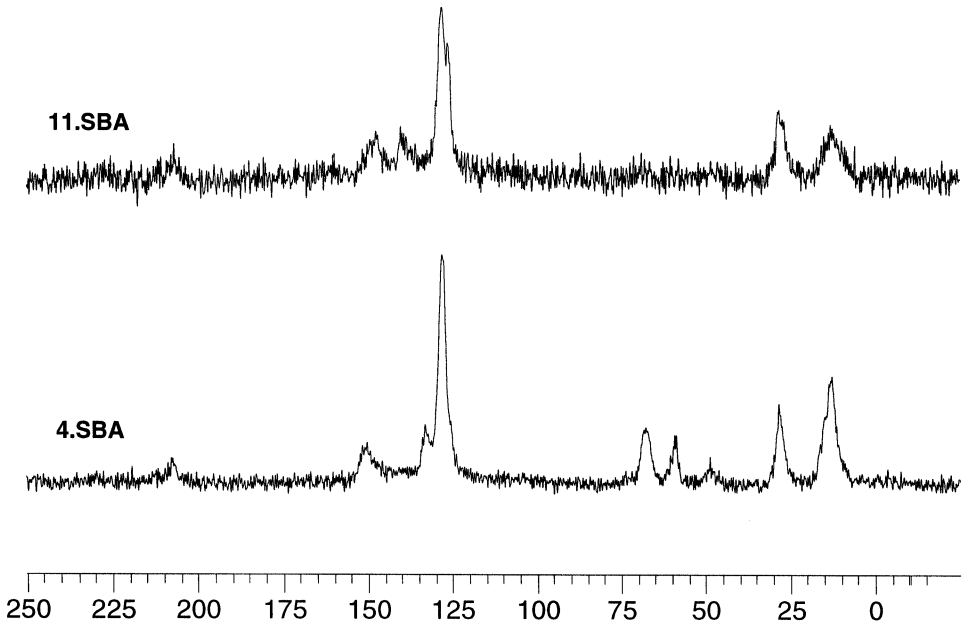
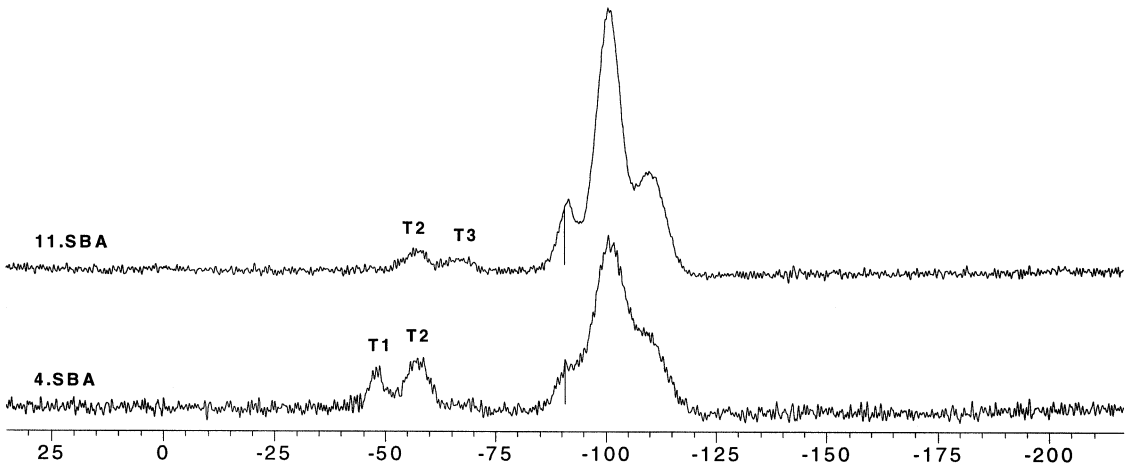


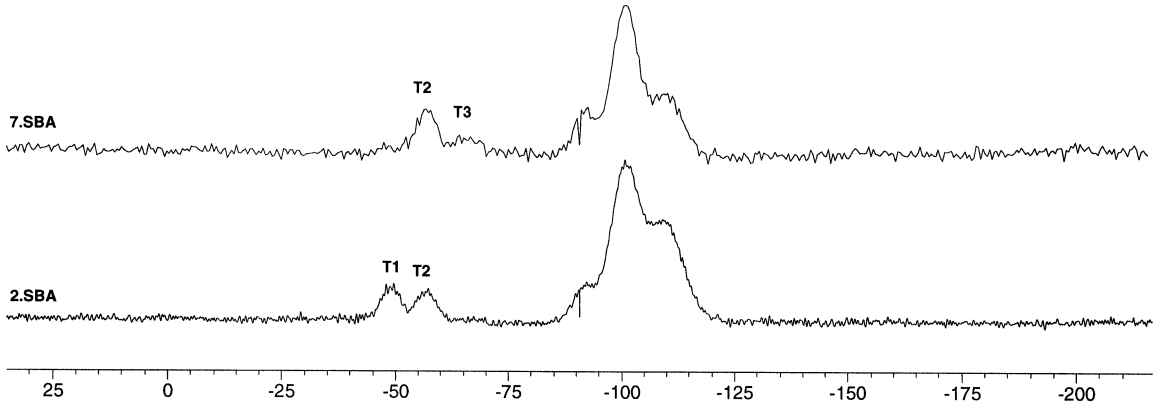
^{13}C CP-MAS NMR

Transformation of the sulfonate ester functionalized **4**·SBA to
the sulfonic acid functionalized **11**·SBA



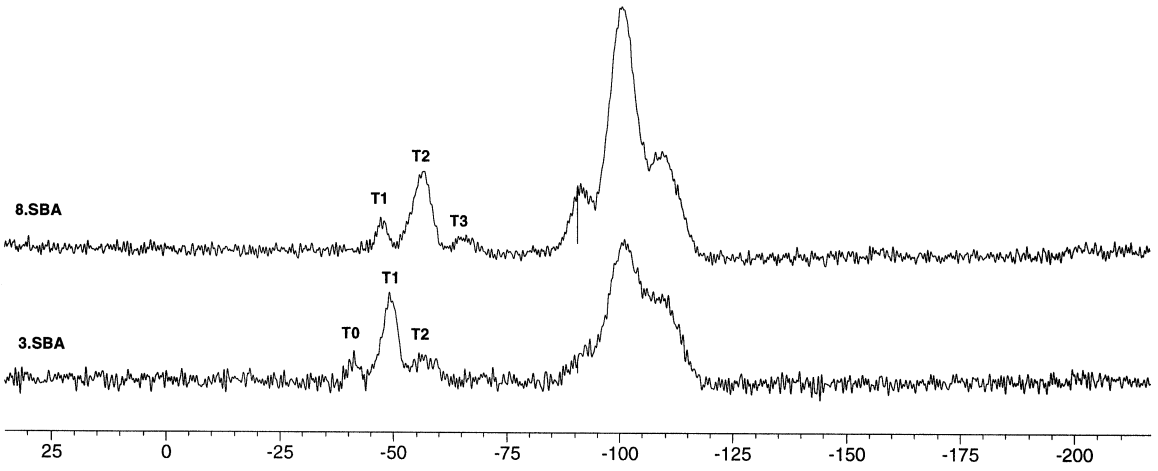
^{29}Si CP-MAS NMR

Transformation of the sulfonate ester functionalized **4**·SBA to
the sulfonic acid functionalized **11**·SBA



^{29}Si CP-MAS NMR

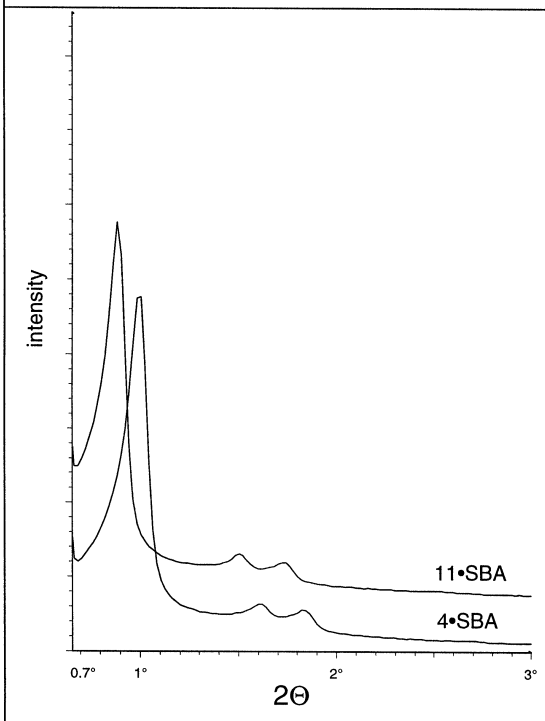
Cleavage of the S-S linkage of the disulfide functionalized **2**·SBA to the thiol functionalized **7**·SBA



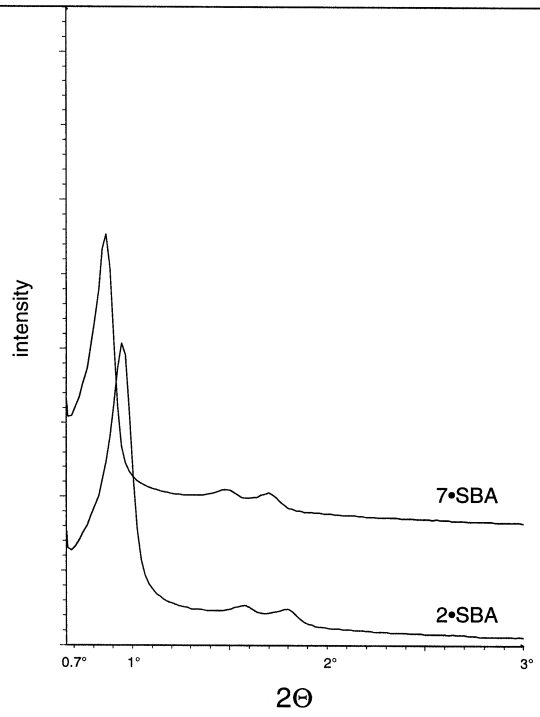
^{29}Si CP-MAS NMR

Cleavage of the S-S linkage of the disulfide functionalized **3**·SBA to the thiol functionalized **8**·SBA

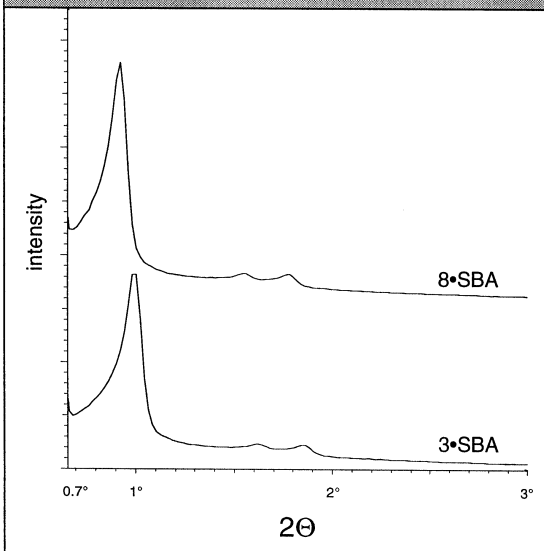
Powder X-ray diffraction patterns



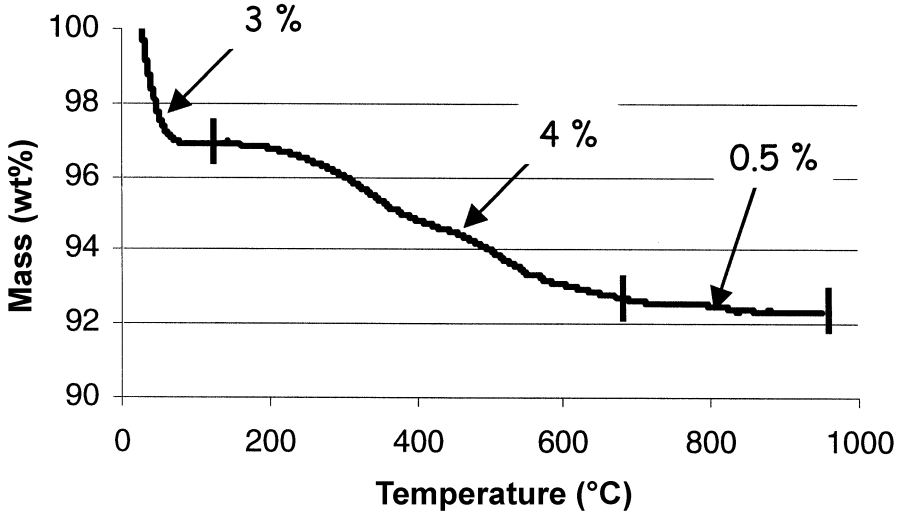
Transformation of ethyl sulfonate **4**•SBA into sulfonic acid **11**•SBA



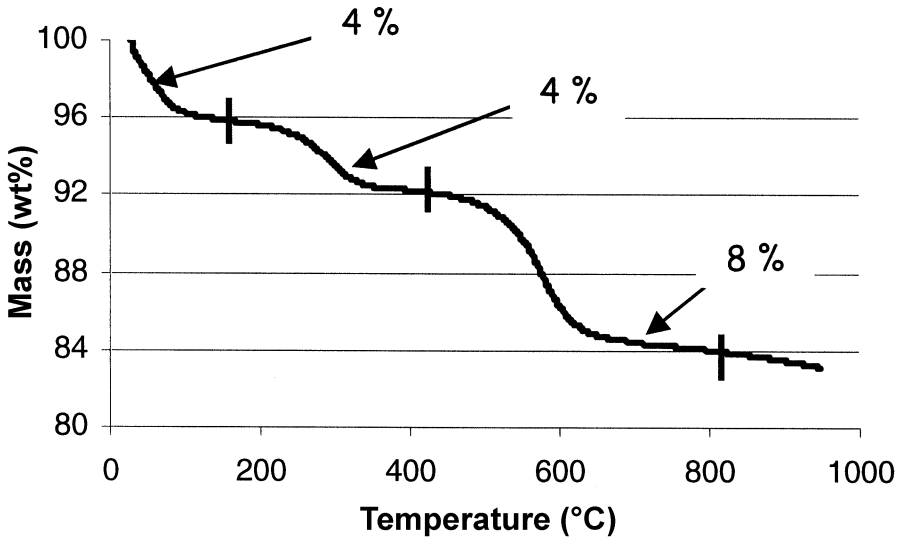
Cleavage of the unsymmetrical disulfide bond in **2**•SBA to produce surface thiol species **7**•SBA



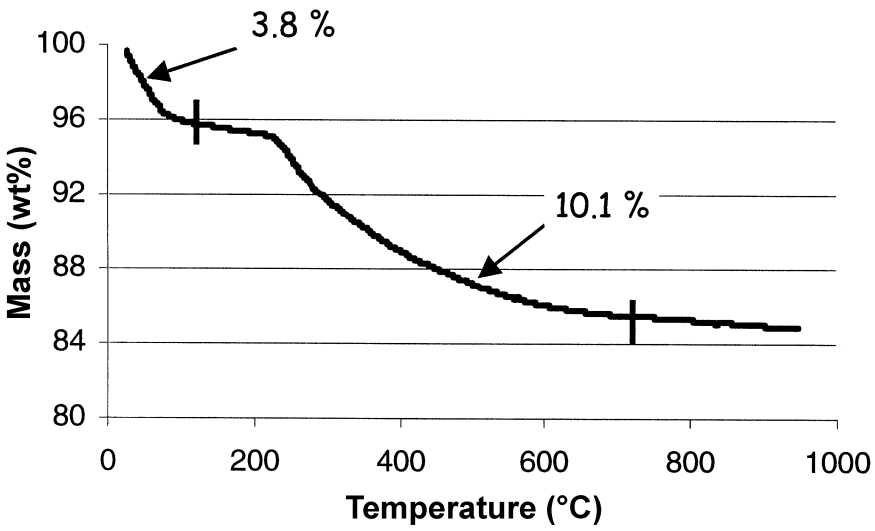
Cleavage of the symmetrical disulfide bond in **3**•SBA to produce proximal surface thiol species **8**•SBA



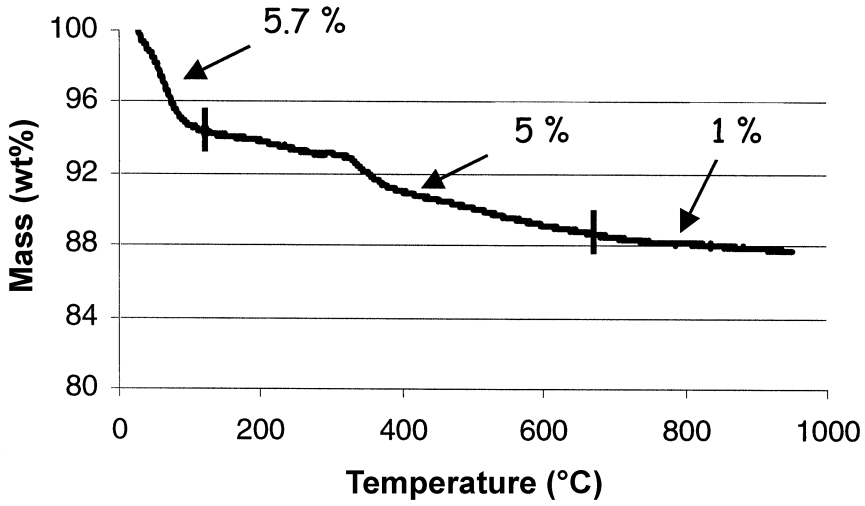
TGA measurement of 1•SBA



TGA measurement of 4•SBA



TGA measurement of 2•SBA



TGA measurement of 3•SBA