

### **Amine-Modified Silicates as Supports and Catalysts**

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Amine modified porous silicates are highly versatile materials. We have explored synthesis-structure-property relationships for these materials in the separation of organic species from gas or liquid phases, as well as for CO<sub>2</sub> capture.<sup>1-3</sup> Building on this, our recent endeavors in the design and application of porous silicate supported amines in catalysis will be described. Both well-defined molecular amines and polymeric amines grafted to silicate surfaces will be discussed. Catalysts based on discrete molecular amines that act as basic sites<sup>4-6</sup> and polymeric amines that cap and modify the reactivity of palladium nanoparticles<sup>7</sup> will be employed in reactions of importance in synthetic organic chemistry such as aldol condensations and selective hydrogenations, respectively.