

are considered quite favourable features to increase HS.[4] Also, the presence of aromatic moieties in these scaffolds, probably with the idea of building kin structures to superactivated carbon, graphenes and carbon nanotubes, is also a coveted architectural characteristic.

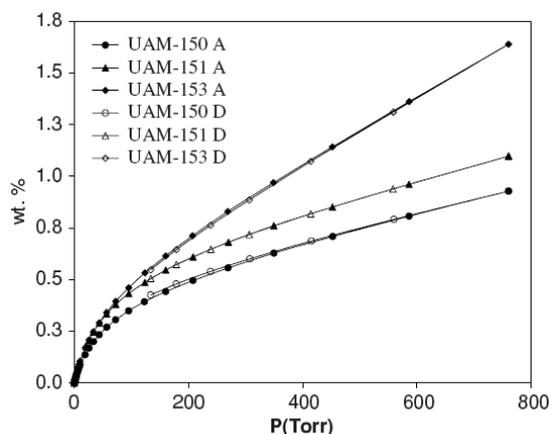


Figure 2

We are investigating the possibilities that organic-inorganic scaffolds based in phosphonates and Al and Zr have in this field. Although our preliminary results have been only quite modest[5] we believe that we have a set-up of conceptual and material tools[6], similar to that reigning organic chemistry, which could lead to the design of an endless number of structures and interesting results. For instance, the use of $\text{Al}_2(\text{HPO}_3)_x$ ($\text{C}_{12}\text{H}_8\text{P}_2\text{O}_6$) $_{1.5-x/2}$ allows the easy control of the HPO_3 /diphenyl-phosphonate ($\text{C}_{12}\text{H}_8\text{P}_2\text{O}_6$) ratio. The resulting materials displayed a good correlation between wt% HS and the HPO_3 content (UAM-150 \rightarrow 152: cf. Figure 2), probably due to the increasing internal area caused by the increment of latter[7].

The Zr derivatives, in which we have a larger experience, seem to be even much more flexible. Three phases (α , γ and λ ; Figure 3) of quite different structures are known for Zr phosphates which easily allow the inclusion of a variety of species, comprising various organic components (carboxylic acids, amines, phosphonates, etc), various phosphorous acids and metal ions. The results in the building of these structures with the phosphonates of

Scheme 1 will be reported in this communication.

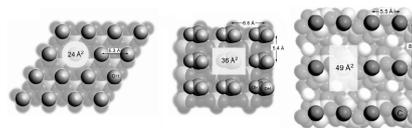
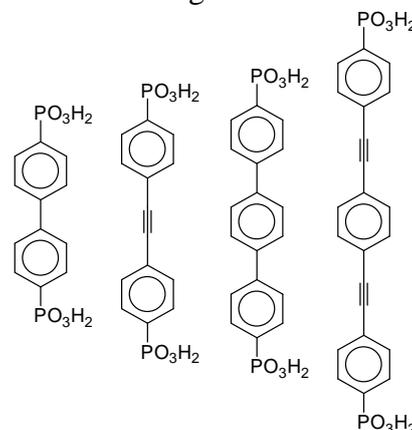


Figure 3



Scheme 1

References

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