

E0059

Synthesis and Structure of an Aluminophosphate Built from 3-rings. Hemant P. Yennawar[#], David E. W. Vaughan⁺ and Anthony J. Perrotta⁺, [#]Dept. Biochemistry and Molecular Biology, Althouse Lab., ⁺Materials Research Lab., Materials Research Inst., The Pennsylvania State Univ., University Park, PA, 16802 USA

Reacting a pre-made aluminophosphate (ALPO, P/Al=0.9) gel with an aqueous-tripropylamine solution of KOH and TMAOH we have synthesised a new porous 3D crystalline structure (PSU-2) under high pH conditions. Single crystal structure analysis shows that the orthorhombic crystal is built from two different pairs of 3-rings of P-tetrahedra and Al-octahedra. This is the first known ALPO built only from 3-ring secondary building units. Associated phases include ALPO analogs of the zeolites sodalite, analcime and natrolite, the last not hitherto reported in an ALPO composition.

