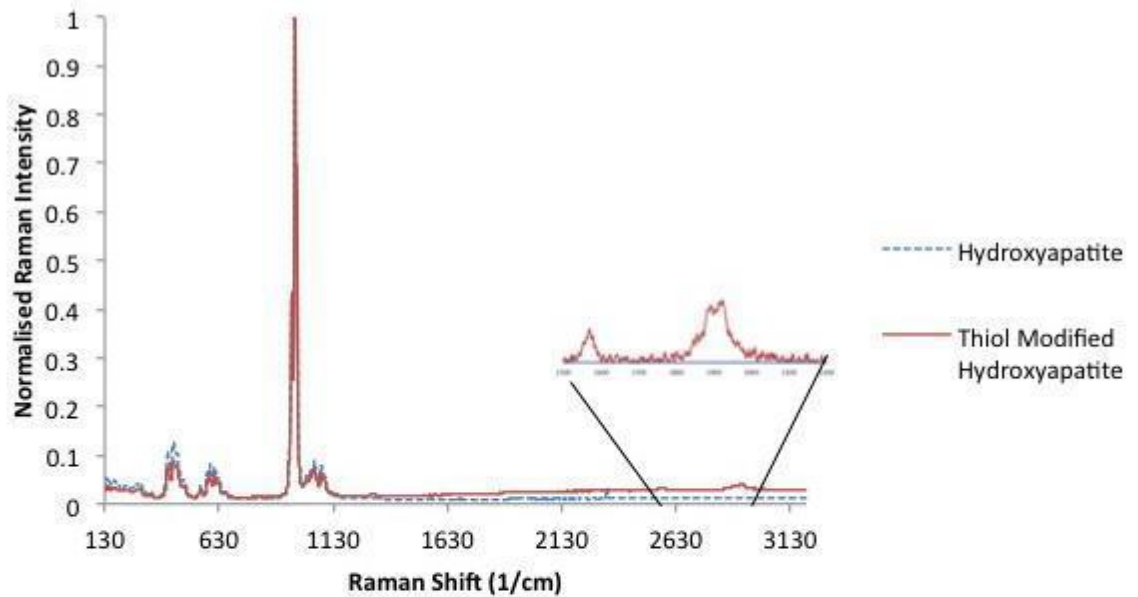
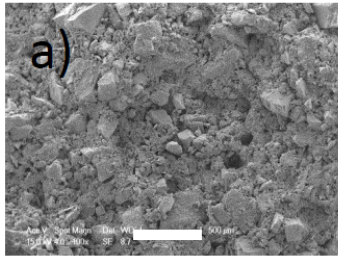


# Raman

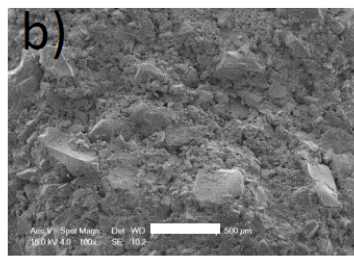


Raman shift (cm <sup>-1</sup> )	Peak assignment
330	OH <sup>-</sup> translational mode
434, 448	double degenerate O-P-O bending mode ( $\nu_2$ ) of PO <sub>4</sub> group
593, 612 + broad 620-630 peak	triple degenerate O-P-O bending mode ( $\nu_4$ ) of the PO <sub>4</sub> group
963	symmetric P-O stretching mode ( $\nu_1$ ) of the PO <sub>4</sub> group
1030, 1049, 1057, 1078	triple degenerate asymmetric P-O stretching mode ( $\nu_3$ )
409	O-P-O bending mode ( $\nu_2$ ) of HPO <sub>4</sub> <sup>2-</sup> group
620-624	P-O and O-P-O stretching and bending modes ( $\nu_4$ ) of the PO <sub>4</sub> group
949	P-O stretching mode ( $\nu_1$ ) of HPO <sub>4</sub> group
962, 969	symmetric P-O stretching mode ( $\nu_1$ ) of the PO <sub>4</sub> group
1017, 1042	P-O stretching mode ( $\nu_1$ ) of HPO <sub>4</sub> <sup>2-</sup> group
1093 (broad)	P-O stretching mode ( $\nu_3$ ) of HPO <sub>4</sub> <sup>2-</sup> group
2548-2595, centered 2572	SH stretching mode
2890, 2923	CH <sub>2</sub> vibrations of propyl chain from MPTS

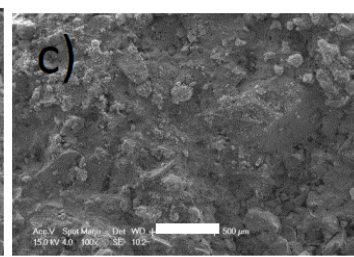
Hydroxyapatite



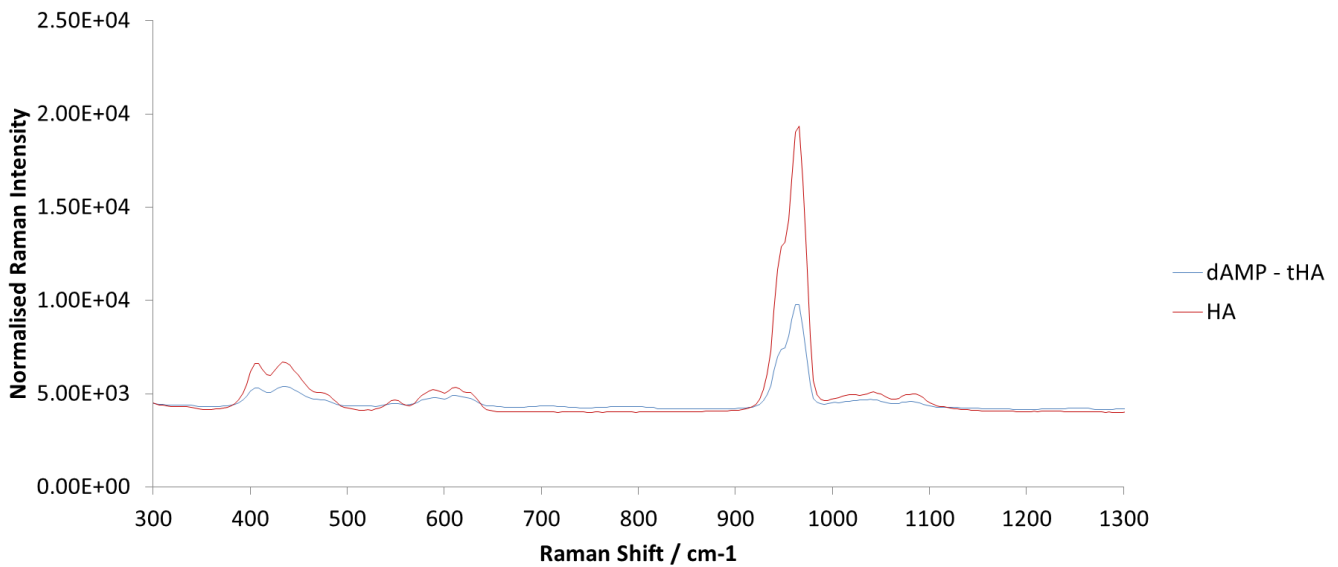
Hydroxyapatite with thiol modification



Hydroxyapatite with dAMP coating



Supplementary Information Figure 2: SEM images of the HA without functionalisation, after functionalisation and after dAMP coating.



Raman spectra showing specific peaks for hydroxyapatite. TCP presence in the structure induces the broadening and slight shoulder of the 963 cm<sup>-1</sup> peaks suggesting some TCP is present in both the HA and the dAMP- tHA in accordance with the literature (Cusco R., Guitian F, de Aza S, Artus L, Differentiation between hydroxyapatite and  $\beta$ -tricalcium phosphate by means of raman spectroscopy, Journal of the European Ceramic Society, 1998, 18; 1301-1305)