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APPENDICES

APPENDIX A Scanning Electron Microscope/Energy Dispersive Using X-Ray (Analysis) of Poly(S/EGDMA) PolyHIPE with HA

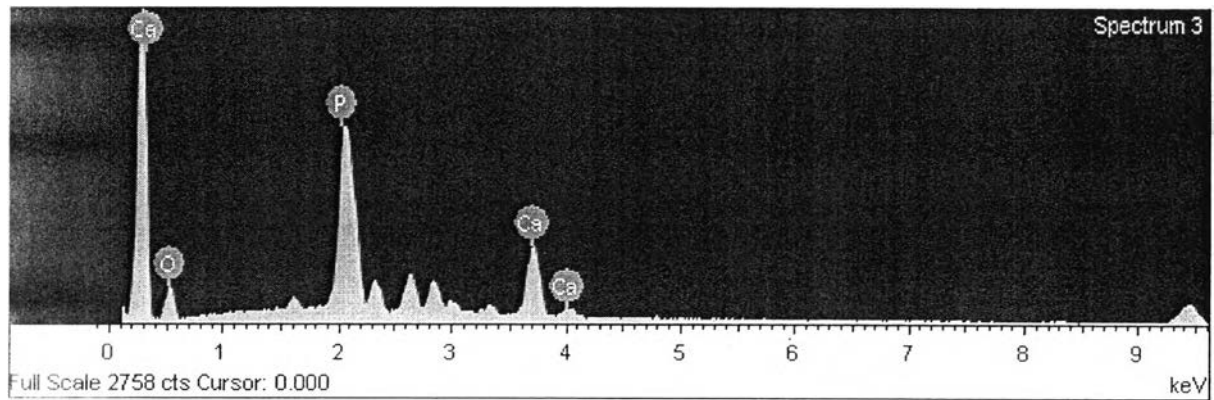


Figure A1 Spectrum of elements that found in polyHIPE with HA 0.2 % w/v.

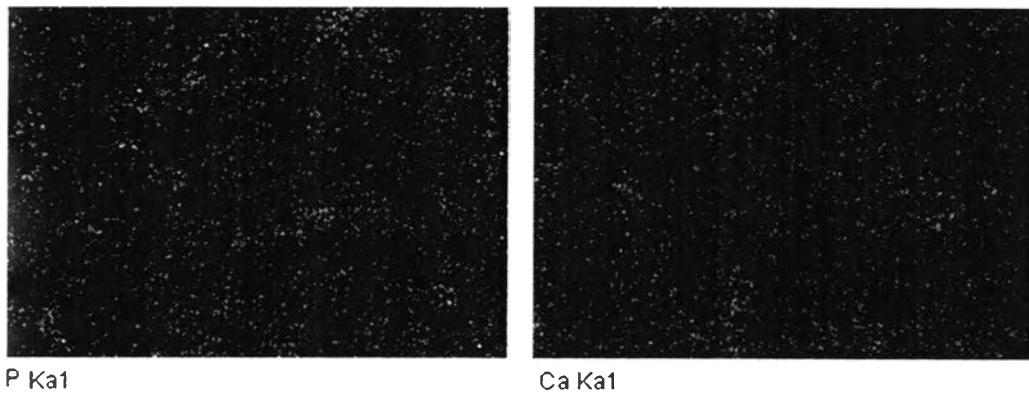


Figure A2 Element distribution mapping of calcium and potassium in modified polyHIPE with HA 0.2 % w/v.

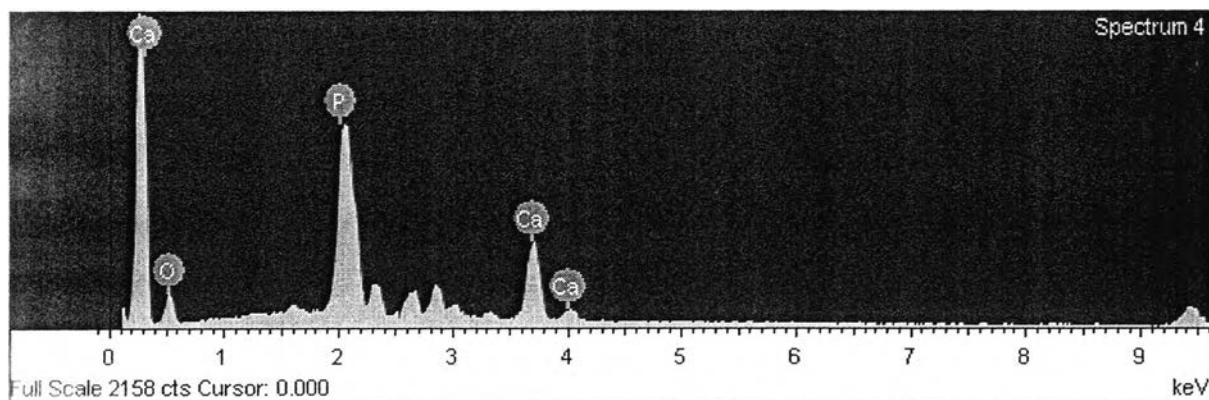


Figure A3 Spectrum of elements that found in polyHIPE with HA 0.4 % w/v.

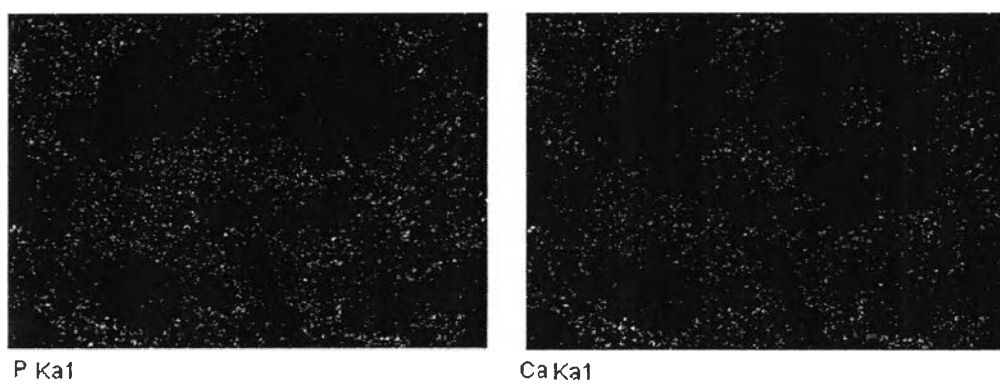


Figure A4 Element distribution mapping of calcium and potassium in modified polyHIPE with HA 0.4 % w/v.

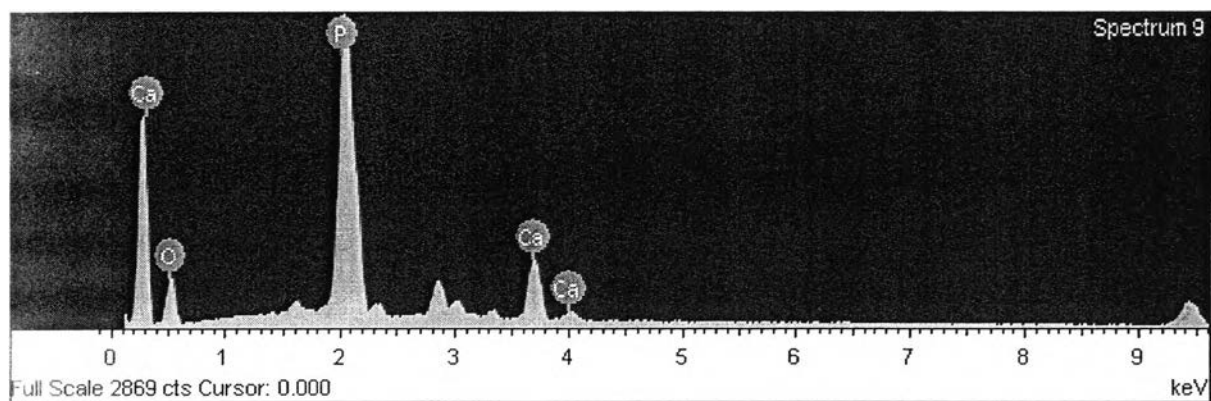


Figure A5 Spectrum of elements that found in polyHIPE with HA 0.6 % w/v.

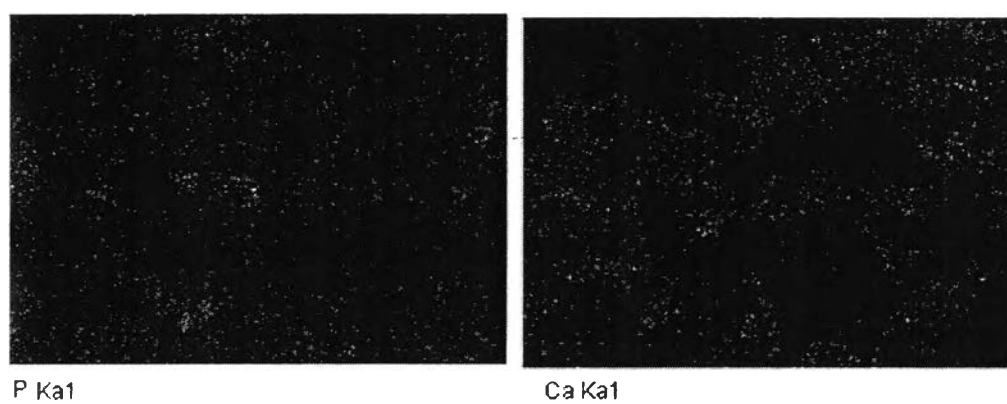


Figure A6 Element distribution mapping of calcium and potassium in modified polyHIPE with HA 0.6 % w/v.

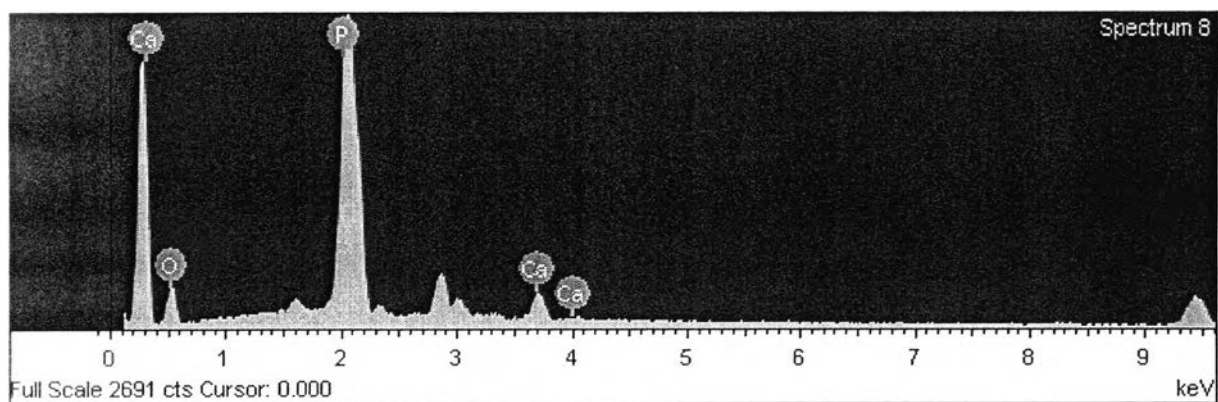


Figure A7 Spectrum of elements that found in polyHIPE with HA 0.8 % w/v.

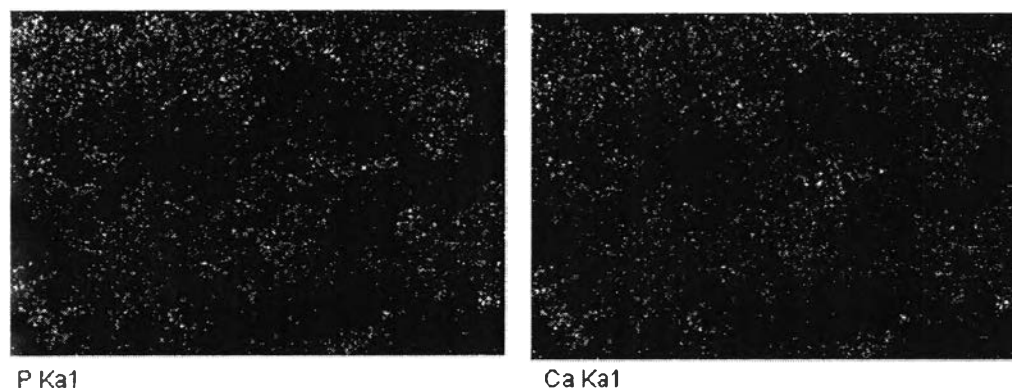


Figure A8 Element distribution mapping of calcium potassium and oxygen in modified polyHIPE with HA 0.8 % w/v.

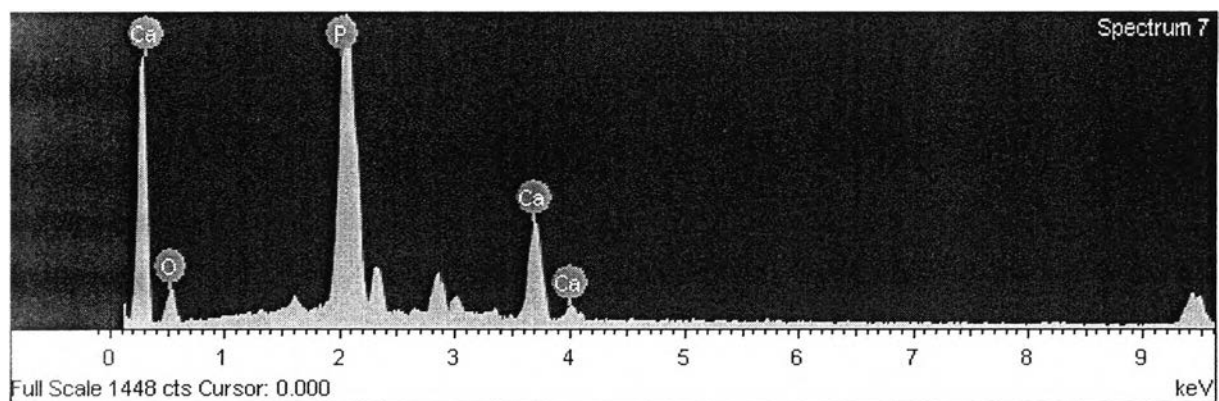


Figure A9 Spectrum of elements that found in polyHIPE with HA 1.0 % w/v.

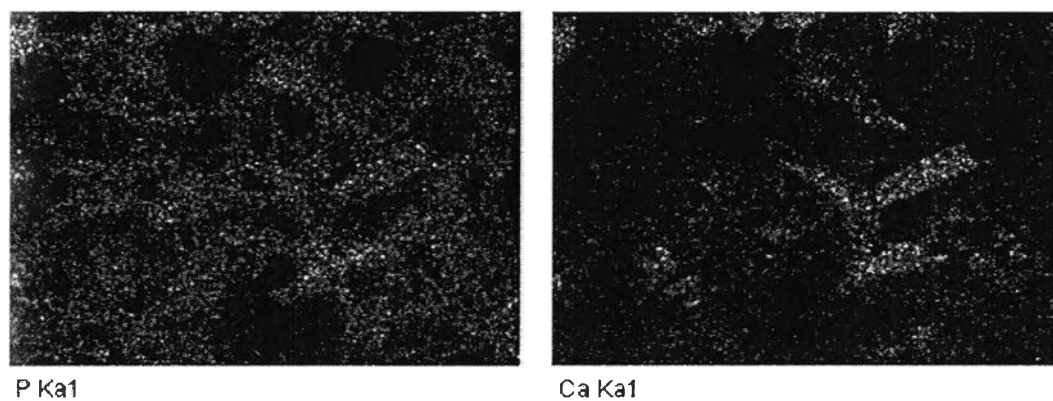


Figure A10 Element distribution mapping of calcium potassium and oxygen in modified polyHIPE with HA 1.0 % w/v.

APPENDIX B Fourier Transform Infrared Spectroscopy (FTIR) Result of Poly(S/EGDMA) Porous Foam with HA

Infrared characterization was carried out for the sample to study the spectral characteristics indicative of the chemical bonding of hydroxyapatite in the polyHIPE porous foam. The peak observed around 3431.8cm^{-1} is due to the presence of -OH bond. The peak at 1046 cm^{-1} is associated with the stretching modes of the P-O bonds of hydroxyapatite. The double peak at 602 cm^{-1} and 561cm^{-1} are due to bending modes of P-O bonds in phosphate groups. Therefore; the existence of PO_4^{3-} group in hydroxyapatite is almost confirm from FTIR studies. Moreover, the FTIR analysis shows a small peak at 1087 cm^{-1} ; which is asymmetric stretching mode of P-O in phosphate group.

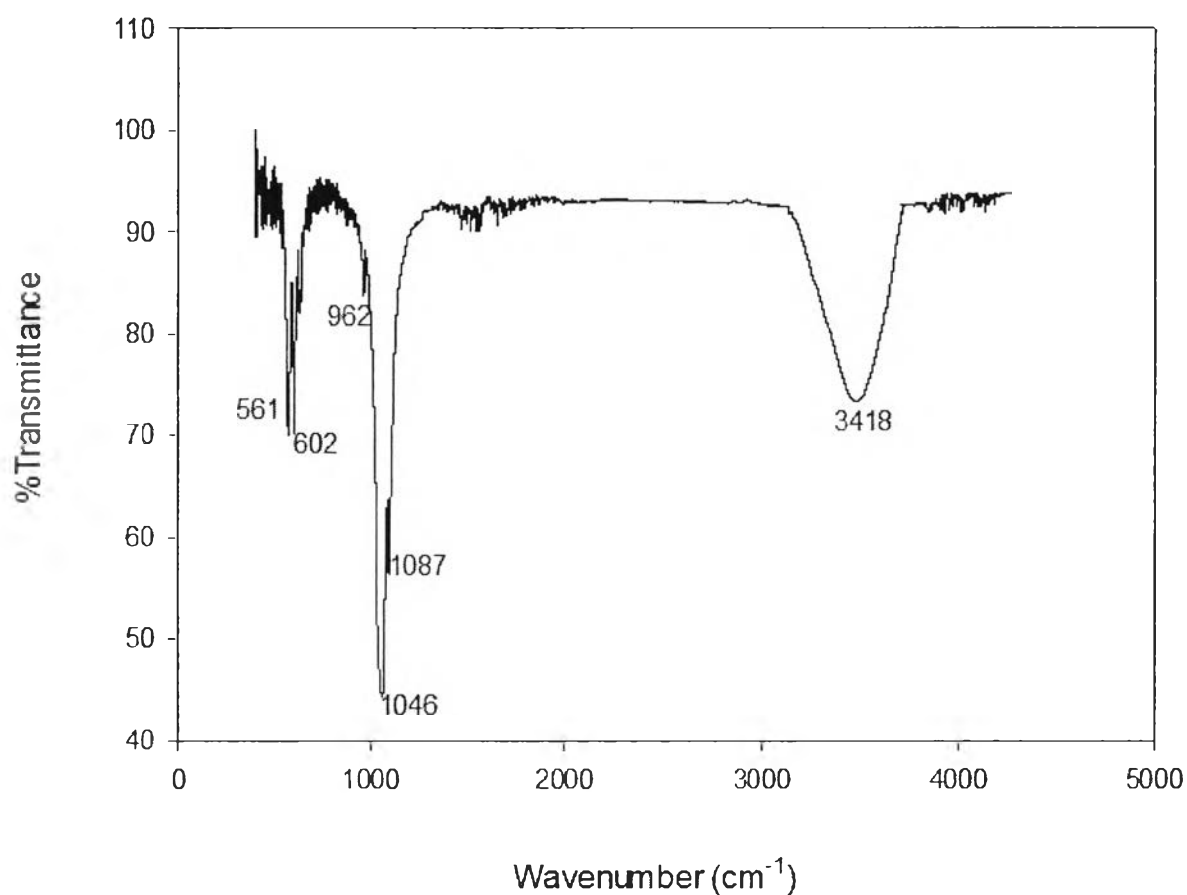


Figure B1 FTIR spectrum of hydroxyapatite.

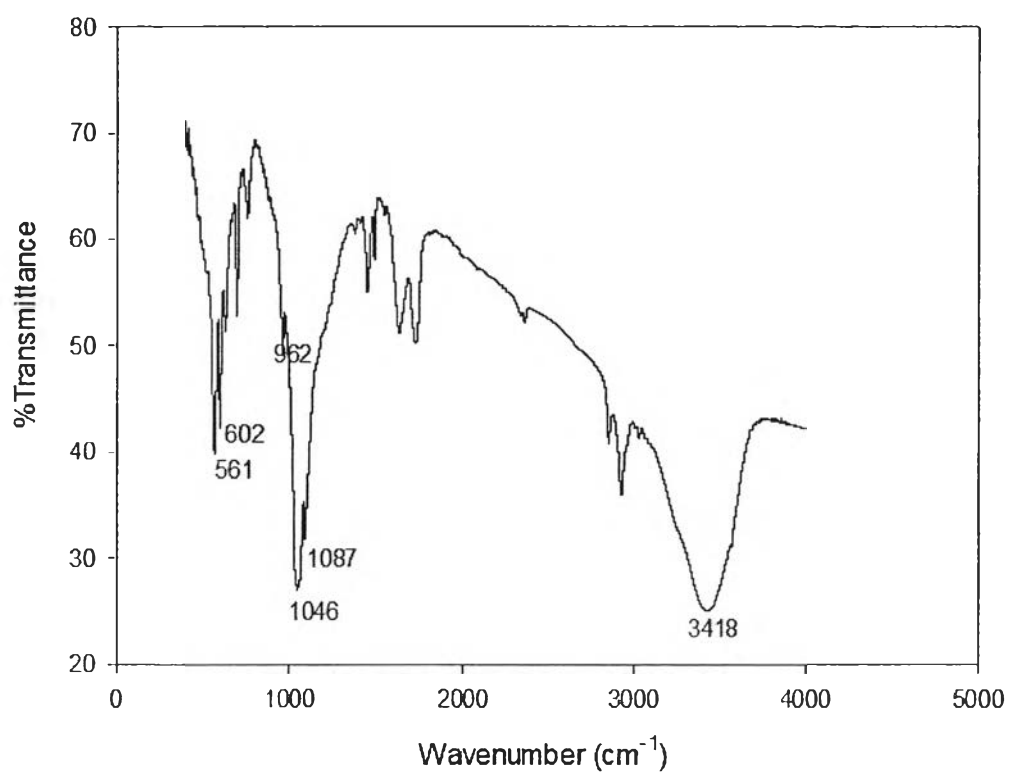


Figure B2 FTIR spectrum of polyHIPE loaded with hydroxyapatite.

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Presentation

2. Aornmuang, P.; Pakeyangkoon, P.; Malakul, P. and Nithitanakul, M. (2013, April 23) PolyHIPE Loading with Hydroxyapatite for Biomedical Applications. Paper presented at the 4rd Research Symposium on Petrochemical and Materials Technology and the 19th PPC Symposium on Petroleum, Petrochemicals, and Polymers. Bangkok, Thailand.