

1 **Supplementary Information**

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3 **Ultrasound-assisted formation of composite materials from fish scale waste**  
4 **hydroxyapatite in the presence of gamma-irradiated chitosan for the removal of**  
5 **malachite green**

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43 **3.2. X-ray diffraction (XRD)**

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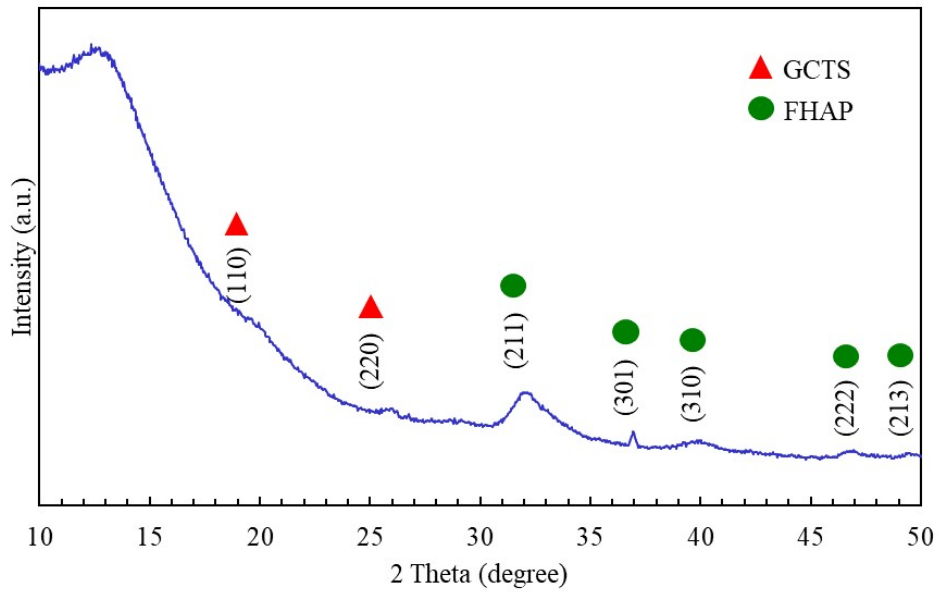
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**Fig. S1.** XRD patterns of FHAP-GCTS composites.