## **Supporting information:**

Kinetics of serum protein adsorption on HA-xFe<sub>3</sub>O<sub>4</sub> composites:

**Procedure:** The sterilized samples were each incubated with 1 mL of  $\alpha$ -MEM complete media containing 20% fetal bovine serum (FBS) at 37 °C, 20 rpm for 30, 60, 90 and 120 min in an incubator shaker. At the end of each time interval, the media was aspirated and the samples were washed thrice with 1X PBS to remove the loosely bound proteins. The adsorbed proteins were solubilized into 1% SDS (Sodium dodecyl sulphate, Sigma) in PBS by incubation for 1 h. The protein content was determined by the standard BCA assay, following the kit protocol. From a standard plot of bovine serum albumin (BSA) concentration versus absorbance, the adsorbed protein content was estimated and normalized to the sample surface area in each case.

**Result:** The adsorption kinetic profiles for the  $HA-Fe_3O_4$  composites do not reveal any significant difference among the various compositions. Nevertheless, the serum protein adsorption seems to be marginally greater on HA5Fe and HA10Fe.



Fig. S1: Protein adsorption kinetics of fetal bovine serum (FBS) proteins on HA-Fe<sub>3</sub>O<sub>4</sub> composites. All data are represented as mean  $\pm$  sd of n=3 replicates from two independent experiments.