Solar-Light-Driven Photodegradation of Eosin Y Dye Using Green-Synthesized Ag/S/ Modified Fe_3O_4 Nanocomposites with Enhanced Photocatalytic Activity

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ln(A_0/A_t) vs. irradiation time

Fig. S1**.** Shows the pseudo-first-order kinetic plots [ln(A_o/A_t) vs. irradiation time] for all three catalysts at pH 3, 7, and 8. The near-linear trends confirm L–H pseudo-first-order behaviour. The higher k_{app} values noted in Tables 10–12 are supported by the steeper slopes noted in the plots of Ag/Fe_3O_4 at pH 7 and S/Fe_3O_4 at pH 8.

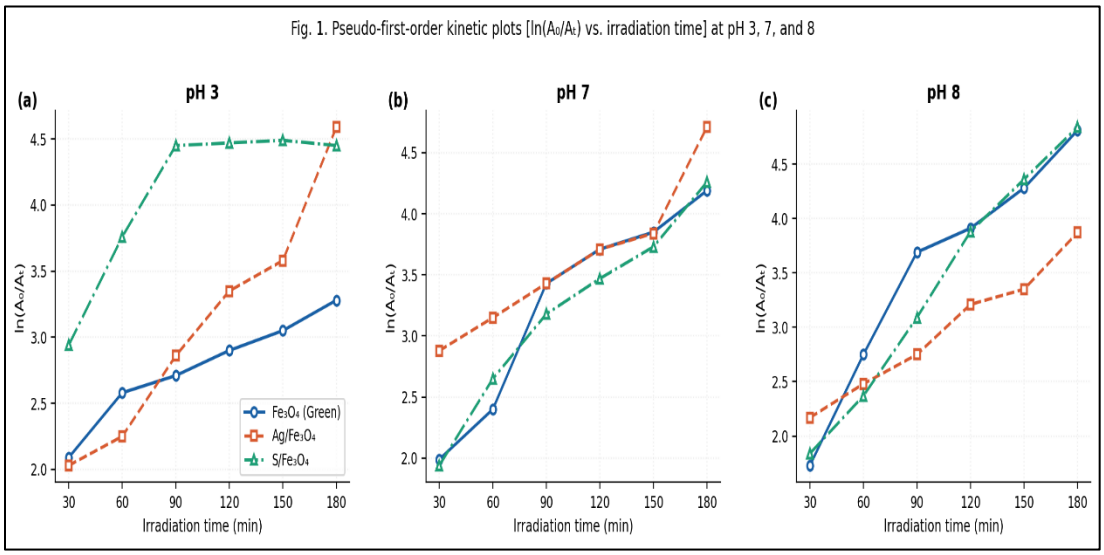

Fig. S1 presents the pseudo-first-order kinetic plots (ln(A_o/A_t) against irradiation time (min) for (a) pH 3, (b) pH 7 and (c) pH 8. Symbols: A circle with a solid line represents Fe_3O_4 (green), a square with a dashed line represents Ag/Fe_3O_4, and a triangle with a dash-dot line represents S/Fe_3O_4.

A_o/A_t vs. Time Plots

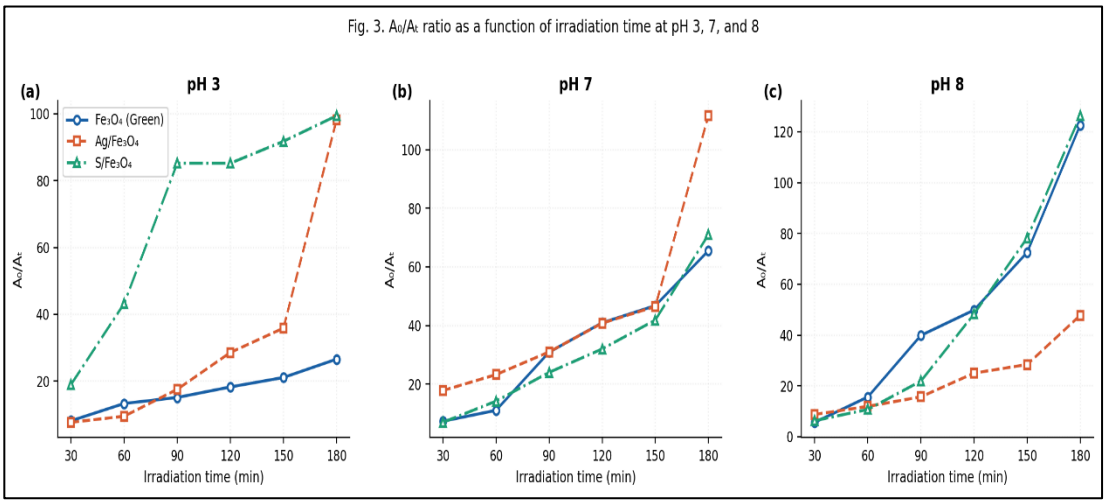

Fig. S2. A_o/A_t ratio as a function of irradiation time (min) at (a) pH 3, (b) pH 7, and (c) pH 8. Line styles as in Fig. 1.

%R vs. Irradiation Time

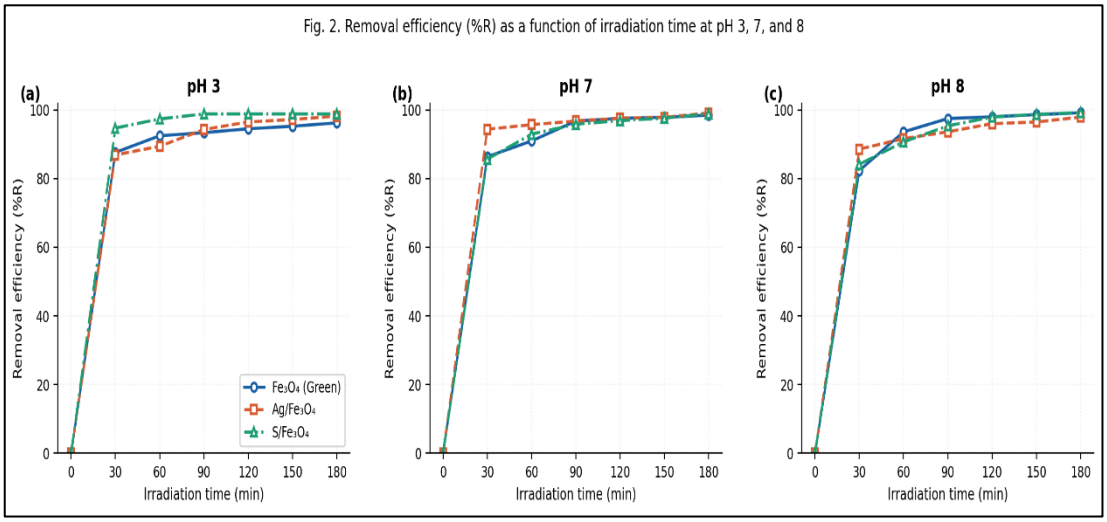

Fig. S3. Removal efficiency (%R) as a function of irradiation time (min) at (a) pH 3, (b) pH 7, and (c) pH 8. Line styles as in Fig. S1.