**Supplementary data for**

**Immobilization of *Trametes trogii* laccase on polyvinylpyrrolidone-coated magnetic nanoparticles for biocatalytic degradation of textile dyes**

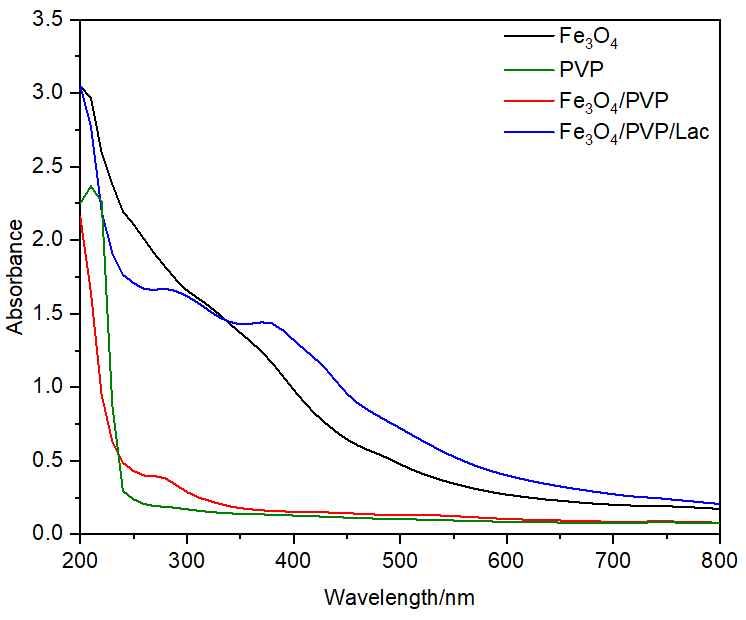
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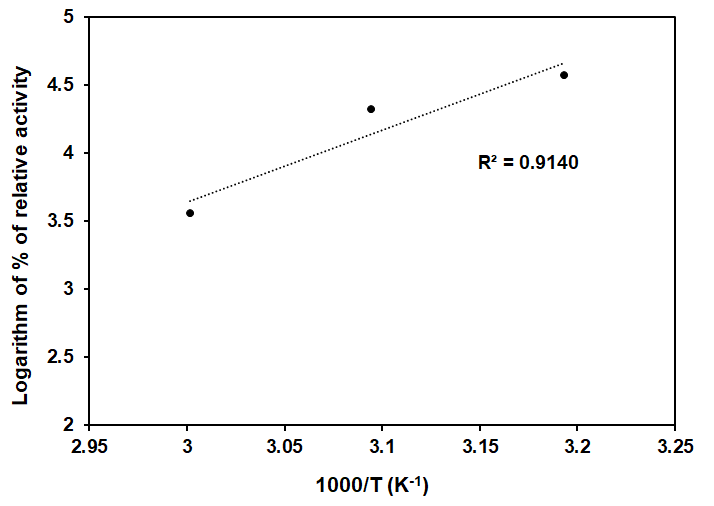
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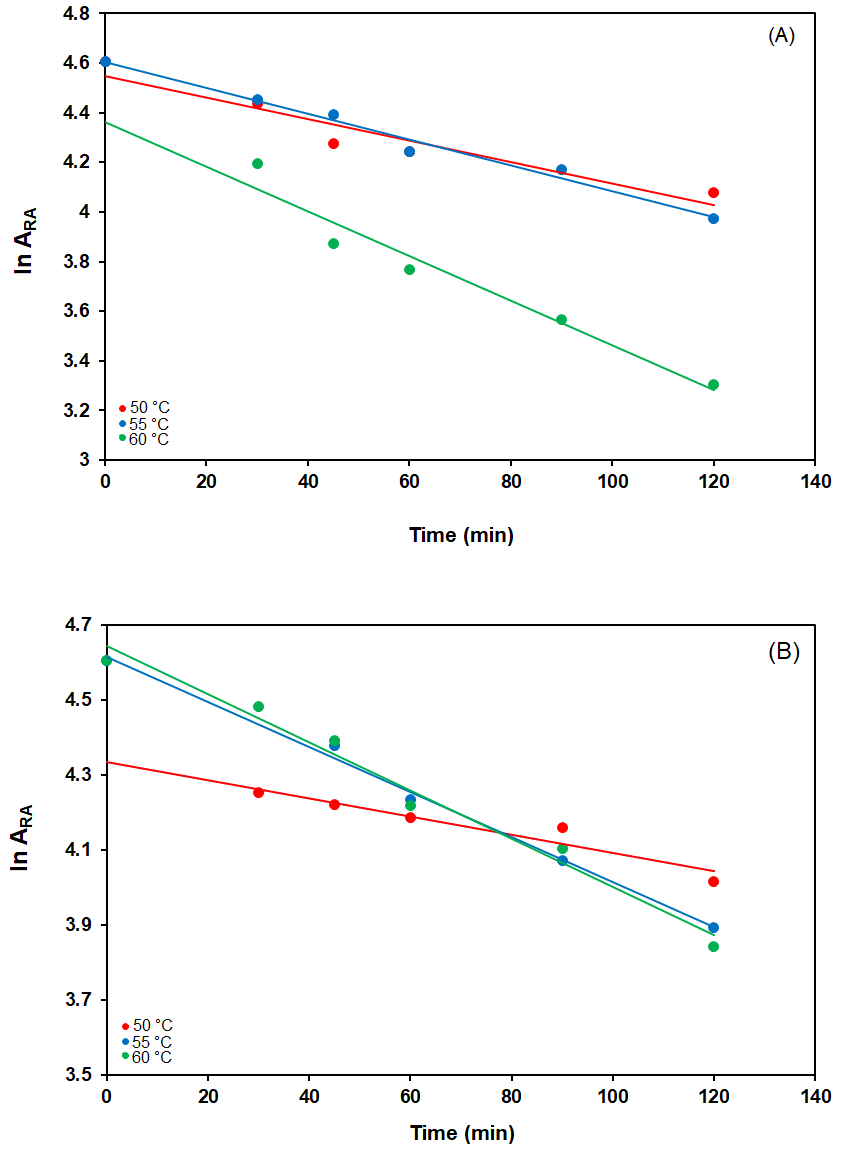
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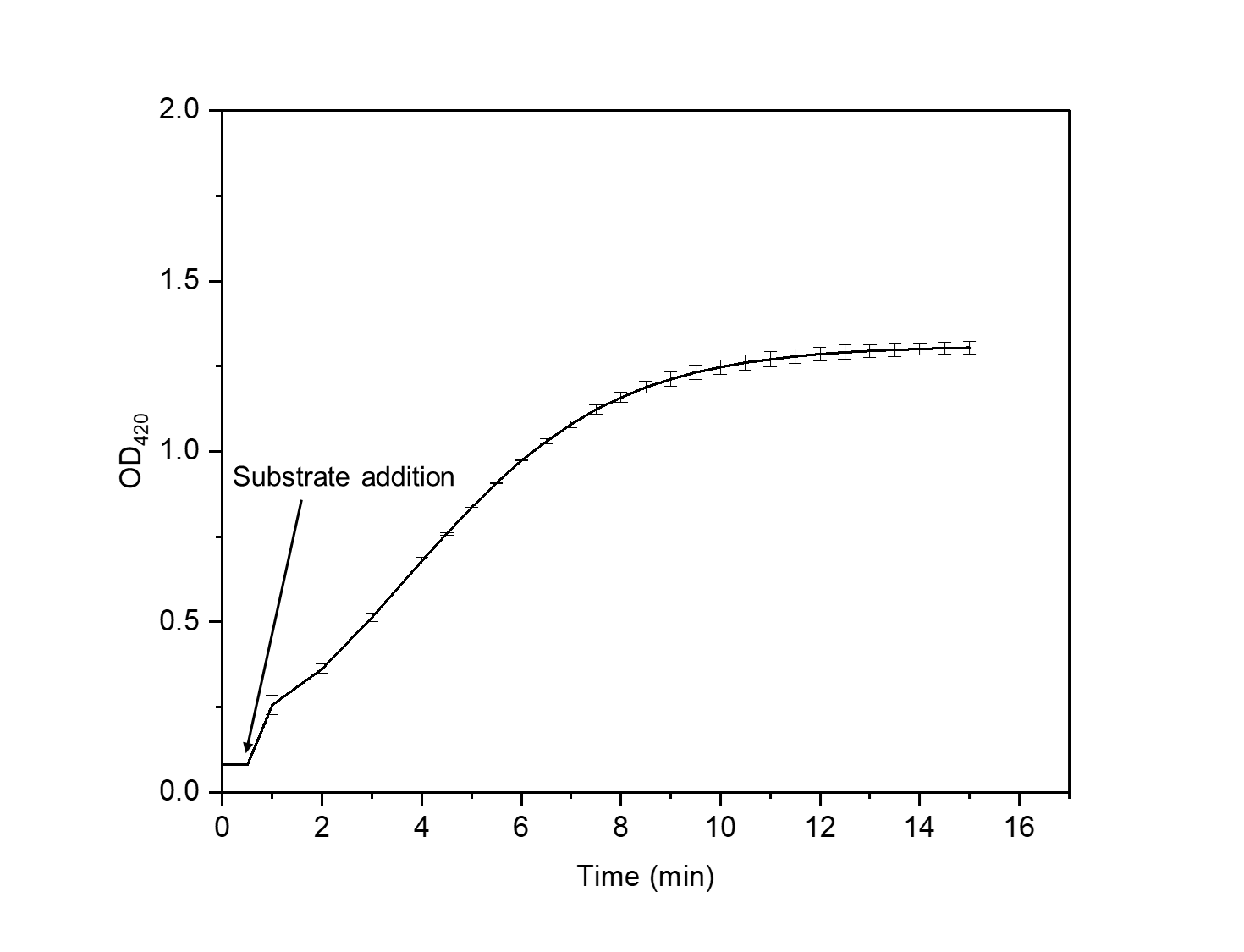
**Fig. S1.** UV-vis spectra of Fe3O4, PVP, Fe3O4/PVP, and Fe3O4/PVP/Lac.



**Fig. S2.** Arrhenius plot for the Fe3O4/PVP/Lac.



**Fig S3.** Linear relation between ln ARA and time for (A) the free Lac and (B) Fe3O4/PVP/Lac.



**Fig. S4.** Time course curve of laccase-catalyzed ABTS oxidation.

|  |  |
| --- | --- |
| A | B |
| C | D |

**Fig. S5.** The spectrophotometric scans and photographs of the color removals obtained after the incubation of RBBR at 1st cycle (A), 3th cycle (B), 6th cycle (C) and, 8th cycle (D) with Fe3O4/PVP/Lac (a: Enzymatically untreated textile dye solutions (controls), b:5 mg, c:10 mg, d:20 mg of Fe3O4/PVP/Lac). (Black line-control, Red line-5 mg of Fe3O4/PVP/Lac, Blue line-10 mg of Fe3O4/PVP/Lac, Green line-20 mg of Fe3O4/PVP/Lac).

|  |  |
| --- | --- |
| A | B |
| C | |

**Fig. S6.** The spectrophotometric scans and photographs of the color removals obtained after the incubation of IC at 1st cycle (A), 3th cycle (B), and, 6th cycle (C) with Fe3O4/PVP/Lac (a: Enzymatically untreated textile dye solutions (controls), b:5 mg, c:10 mg, d:20 mg of Fe3O4/PVP/Lac). (Black line-control, Red line-5 mg of Fe3O4/PVP/Lac, Blue line-10 mg of Fe3O4/PVP/Lac, Green line-20 mg of Fe3O4/PVP/Lac).