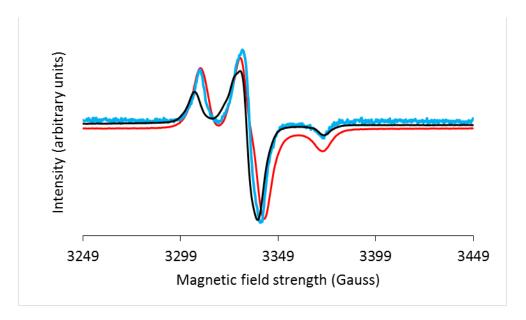
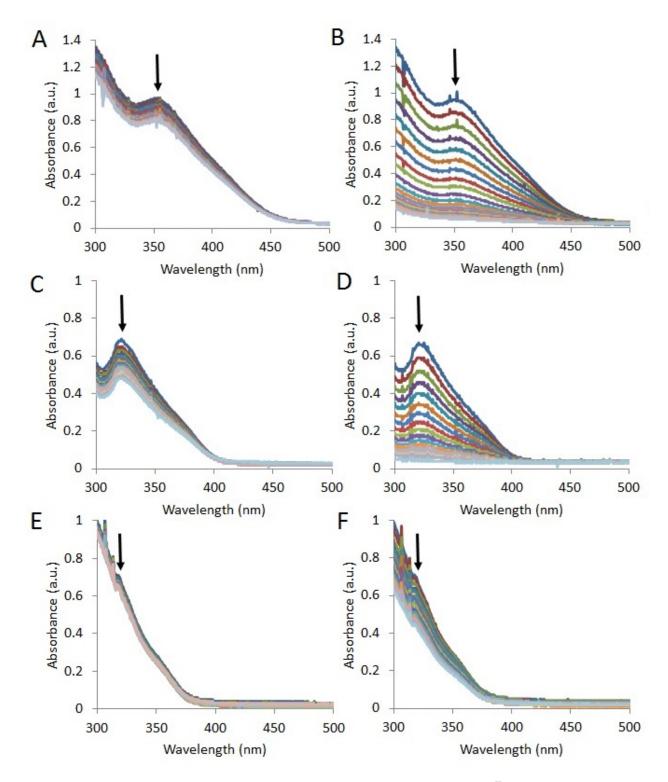
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**Figure S1.** EPR spectra of  $EuCl_2 + O_2 + BMPO$  (red),  $EuCl_3 + KO_2 + BMPO$  (blue), and  $KO_2 + BMPO$  (black) in methanol at 110 K under Ar.



**Figure S2.** Representative UV–visible spectra of bromate oxidizing **1**-Eu<sup>II</sup> at (A) pH 7 and (B) 5, EuCl<sub>2</sub>(aq) at (C) pH 7 and (D) 5, and **2**-Eu<sup>II</sup> at (E) pH 7 and (F) 5. Spectra were acquired every 15 minutes between 0 and 240 minutes, and the arrows point in the forward direction of time.