SUPPORTING INFORMATION

Comparing the Suitability of Sodium Hyposulfite, Hydroxylamine Hydrochloride and Sodium Sulfite as the Quenching Agents for Permanganate Oxidation†

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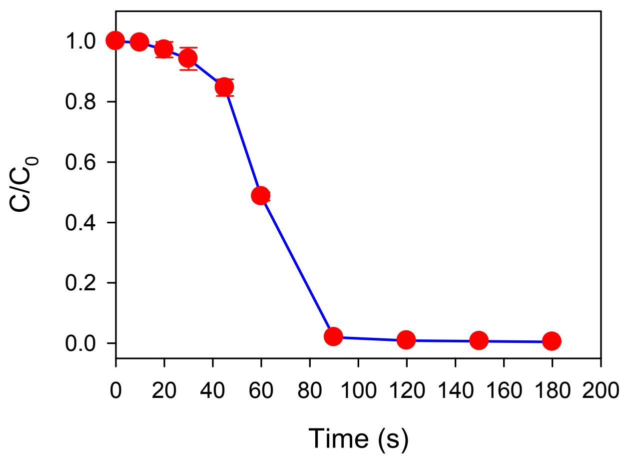

Figure S1. Time course of aniline oxidation by $KMnO_4$ at pH 4.0. Reaction conditions: $[\text{aniline}]_0$ = 5 μM, $[KMnO_4]_0$ = 50 μM.

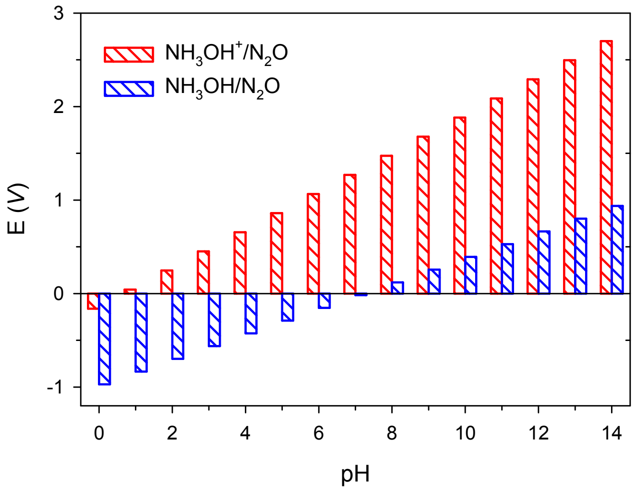

Figure S2. Conditional oxidation reduction potential of NH_2OH/N_2O and NH_3OH^+/N_2O at different pH with 500 μM NH_2OH or NH_3OH^+.

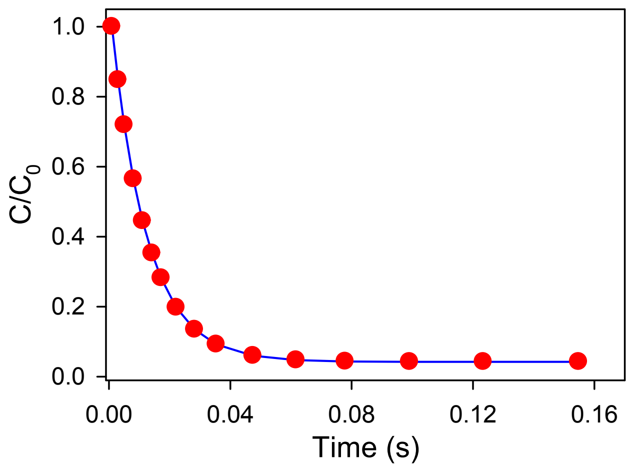

Figure S3. Variation of phenol concentration as a function of time in the $KMnO_4/Na_2SO_3$ process at pH 5.0. Reaction conditions: $[KMnO_4]_0$ = 50 μM; $[Na_2SO_3]_0$ = 500 μM, $[Phenol]_0$ = 5 μM.

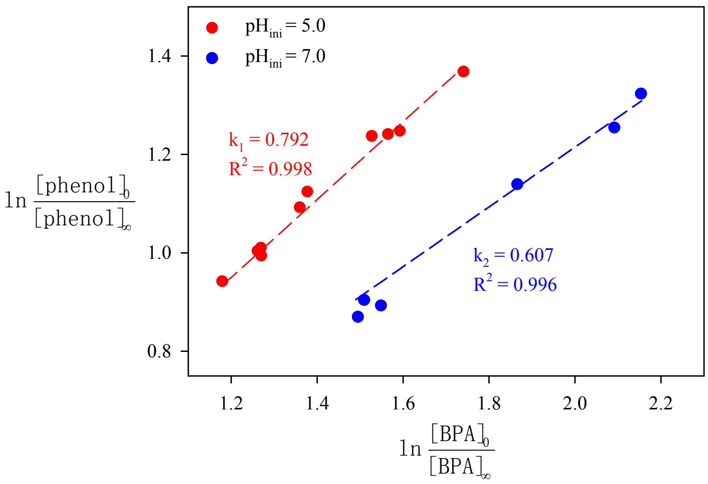

Figure S4. Plots of $\ln\frac{c^0_{BPA}}{c^\infty_{BPA}}$ *vs* $\ln\frac{c^0_{phenol}}{c^\infty_{phenol}}$ in the $KMnO_4$/ Na_2SO_3 process. Reaction conditions: $[KMnO_4]_0$ = 50 μM, $[Na_2SO_3]_0$ = 250 μM, the concentration of phenol and BPA changed from 5 μM to 15 μM.

Table S1. The second-order rate constants of phenol, $Na_2S_2O_3$, NH_2OH•HCl and Na_2SO_3 oxidation by $KMnO_4$.

pH	$k_{phenol}(M^{-1}s^{-1})$	$k_{Na_2S_2O_3}(M^{-1}s^{-1})$	$k_{NH_2OH\bullet HCl}(M^{-1}s^{-1})$	$k_{Na_2SO_3}(M^{-1}s^{-1})$
2.0	342	1.29×10^6	175.6	-
3.0	20.0	3.58×10^5	148.0	-
4.0	6.73	1.49×10^4	57.2	2.39×10^4
5.0	4.73	2.95×10^3	58.0	[a]3.73×10^4
6.0	0.567	1.84×10^3	607.8	[a]4.70×10^4
7.0	15.8	2.20×10^3	8.66×10^3	[a]4.87×10^4
8.0	24.1	1.32×10^3	1.16×10^4	[a]4.49×10^4
9.0	43.4	1.08×10^3	1.27×10^4	[a]5.04×10^4
10.0	57.8	1.13×10^3	1.21×10^4	5.67×10^4
11.0	33.1	2.70×10^3	1.40×10^4	8.4×10^4

[a]obtained from our previous study[1]

Table S2. The second-order rate constants of BPA and phenol oxidation by Mn(III)

pH	[b]$\boldsymbol{k_{BPA}}$ **($M^{-1}s^{-1}$)**	$\boldsymbol{k_{phenol}}$ **($M^{-1}s^{-1}$)**
5.0	4.21×10^{5}	3.33×10^{5}
7.0	1.37×10^{5}	8.32×10^{4}

[b]obtained from our previous study[1]

Reference

1. B. Sun, H.Y. Dong, D. He, D.D. Rao, X.H. Guan, *Environ. Sci. Technol.* **2016**. http://pubs.acs.org/doi/abs/10.1021/acs.est.5b05207.