Supporting information

Fig.S1 the experimental setup used by UVC-S(IV)-O_2 system.

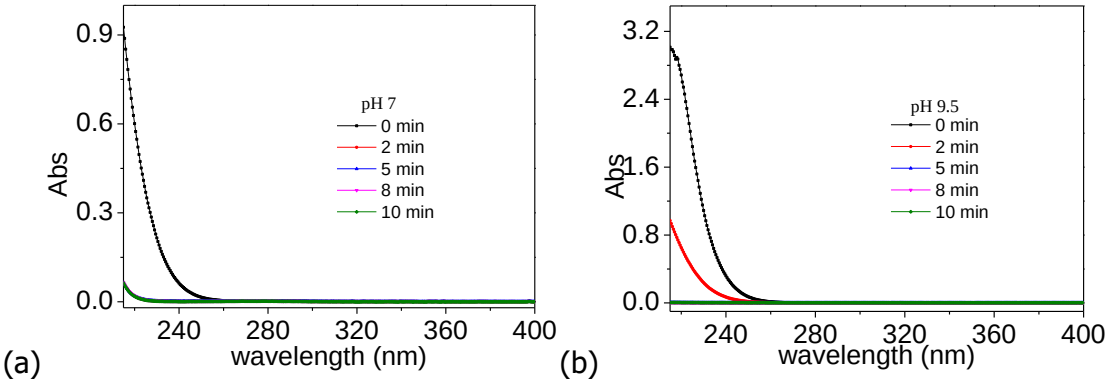

Fig. S2. The changes of S(IV) spectrum in the UVC-S(IV)-O_2 system during reaction time. Initial conditions: $[S(IV)]_0$ = 2 mM, $[As(III)]_0$ = 5 μM. pH 7 or 9.5.

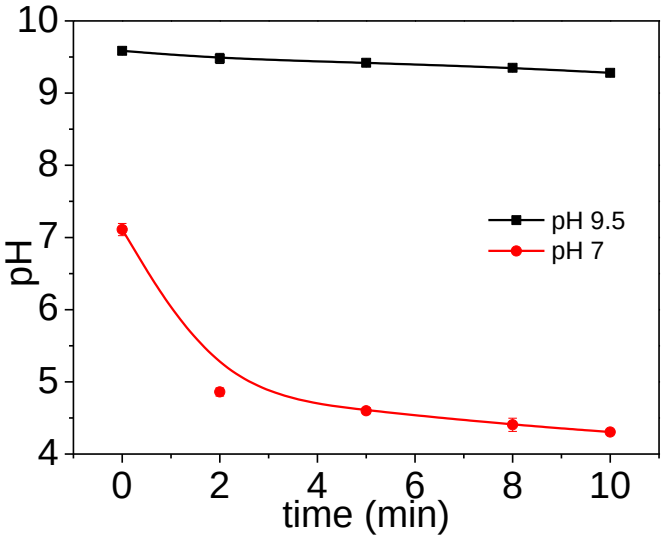

Fig. S3. The changes of pH in the UVC-S(IV)-O_2 system during reaction time. Initial conditions: $[S(IV)]_0$ = 2 mM, $[As(III)]_0$ = 5 μM. pH 7 or 9.5.

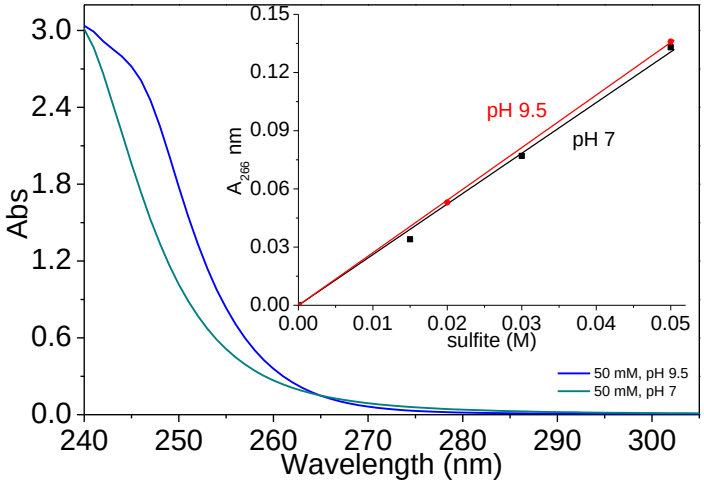

Fig. S4. Absorption spectra of 50 mM sulfite at pH 7 and 9.5 in 1 cm optical cell. Insert – the dependence of absorbance at 266 nm upon S(IV) for pH 7 and pH 9.5.

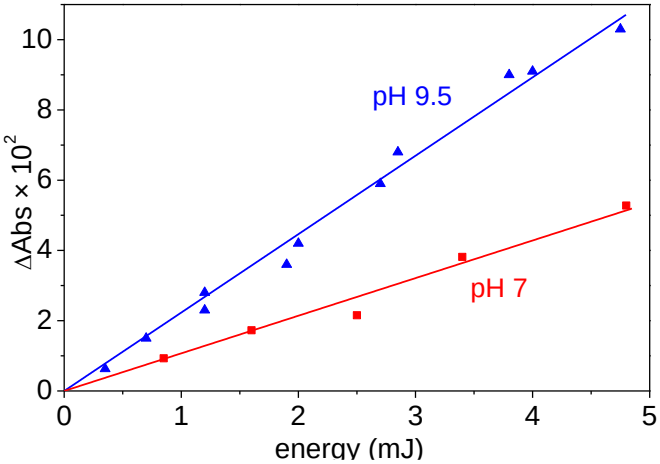

Fig. S5. Dependence of the yield of e_{aq}^- absorbance at 720 nm upon energy of excitation at pH 7 and 9.5.