## Supporting information : Quasi-free Electron-mediated Radiation Sensitization by C5-Halopyrimidines

Jun Ma, <sup>a,\*</sup> Teseer Bahry, <sup>a,b</sup> Sergey A. Denisov, <sup>b</sup> Amitava Adhikary, <sup>c</sup> Mehran Mostafavi<sup>b,\*</sup>

<sup>a</sup> Department of Nuclear Science and Engineering, Nanjing University of Aeronautics and Astronautics,

Nanjing 211106, P. R. China

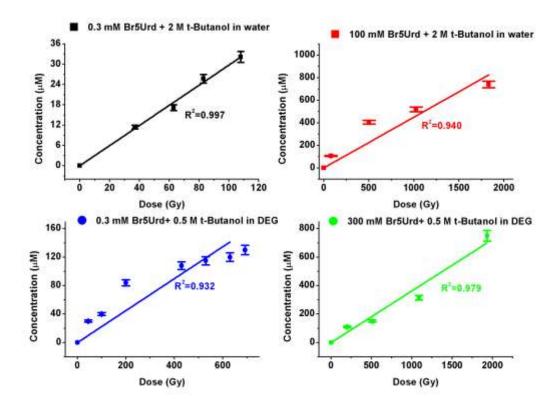
<sup>b</sup> Institut de Chimie Physique, UMR 8000 CNRS, Bât. 349, Université Paris-Saclay; 91405, Orsay,

Cedex, France

c Department of Chemistry, Oakland University, 146 Library Drive, Rochester, MI - 48309, United

States

E-mail: junma@nuaa.edu.cnmehran; mostafavi@universite-paris-saclay.fr



**Figure S1.** Curves showing the concentrations (in  $\mu$ M) of gamma-radiation produced Br<sup>-</sup> in solutions of Br5Urd in DEG and in water as a function of absorbed dose (in Gy) with corresponding linear regression analyses. These curves are used to obtain the G values that are presented in Table 1 of the main manuscript.

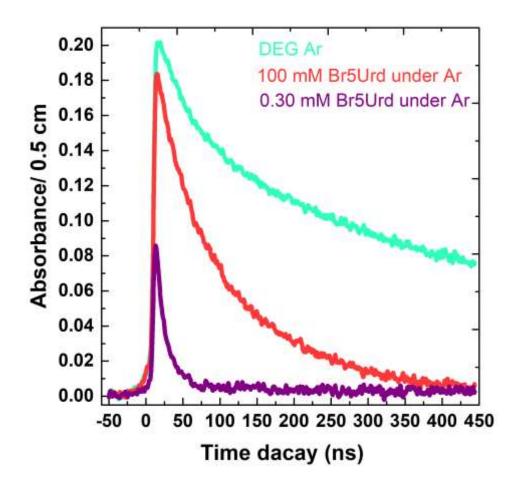
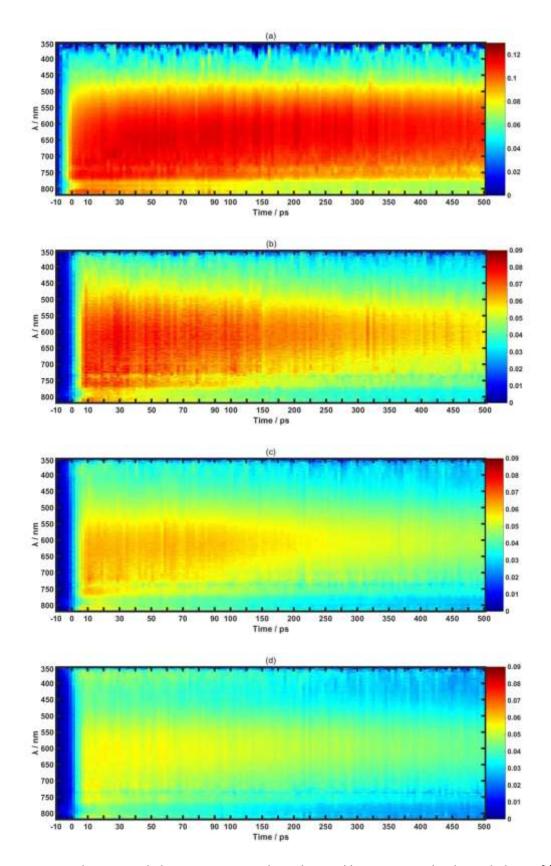
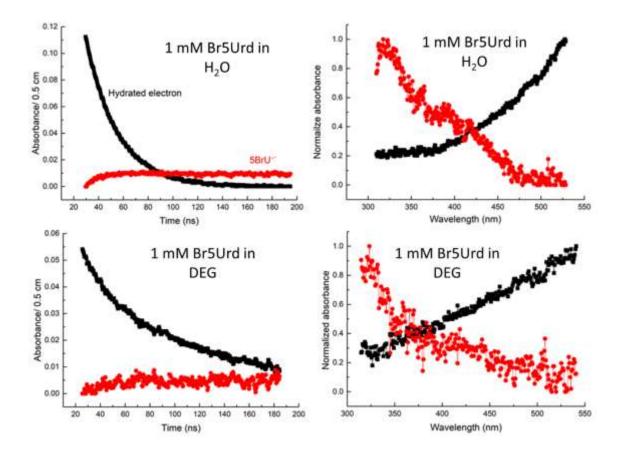


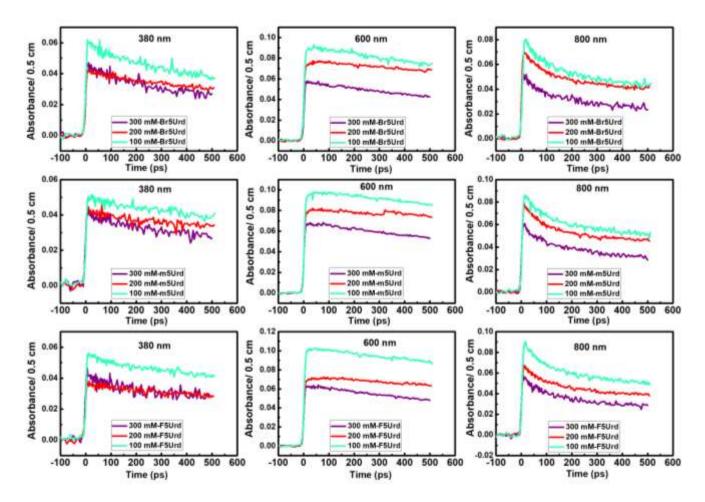
Figure S2. Decay of solvated electron in DEG under different conditions.



**Figure S3.** Two-dimensional absorption matrix data obtained by picosecond pulse radiolysis of **(a)** diethylene glycol (DEG); **(b)** 0.3 M m5Urd in DEG; **(c)** 0.3 M F5Urd in DEG; **(d)** 0.3 M Br5Urd in DEG.



**Figure S4.** Kinetics and the absorption spectra of the solvated electron and the Br5Urd<sup>•-</sup> in water and in DEG deduced from the Pulse radiolysis of water and DEG solutions containing a 1 mmol/L Br5Urd.



**Figure S5.** The initial yields and kinetics of solvated electrons in solutions of m5Urd, Br5Urd, and F5Urd in DEG at different concentrations.