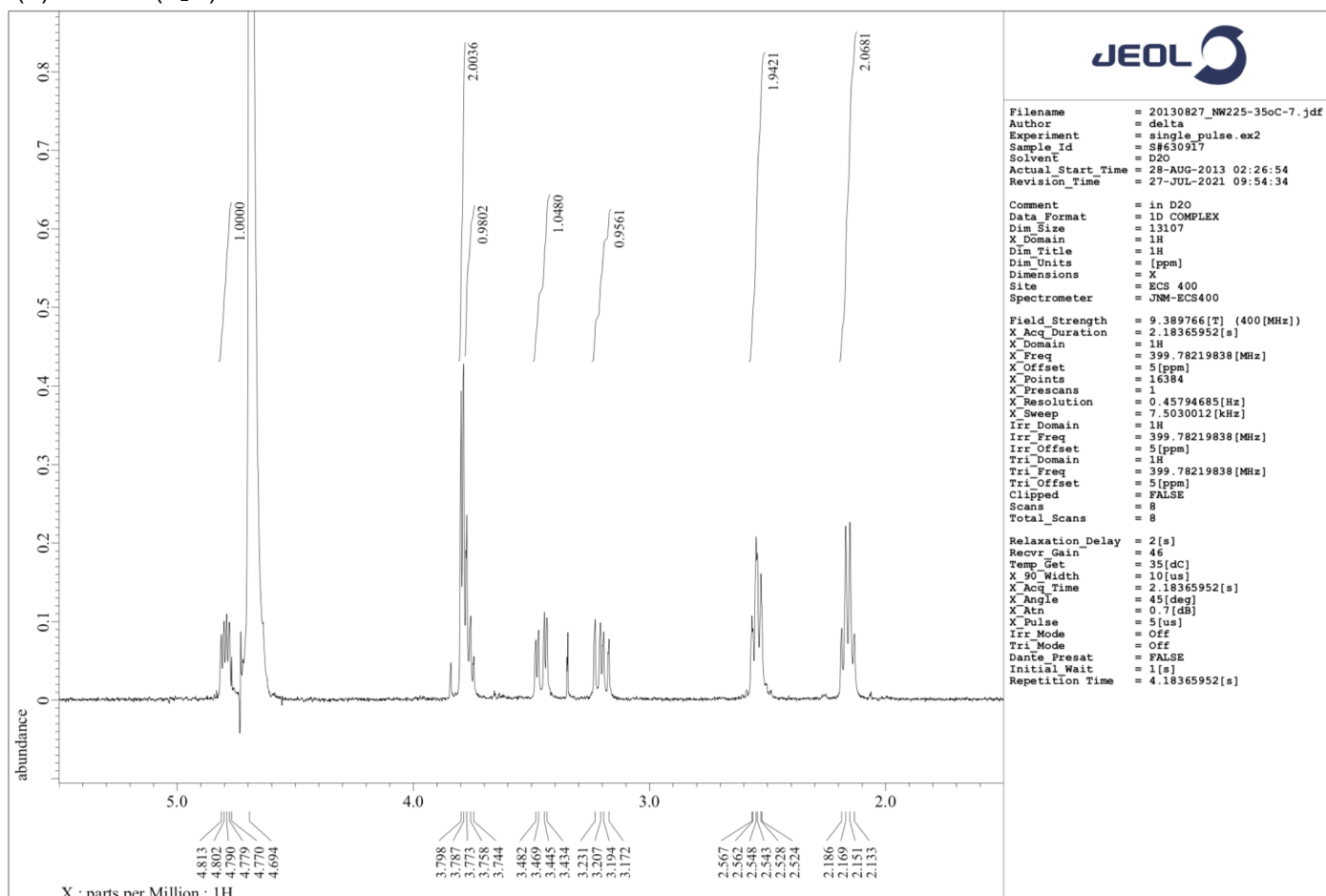


(A) ^1H -NMR (D_2O)



(B) ^{13}C -NMR (D_2O)

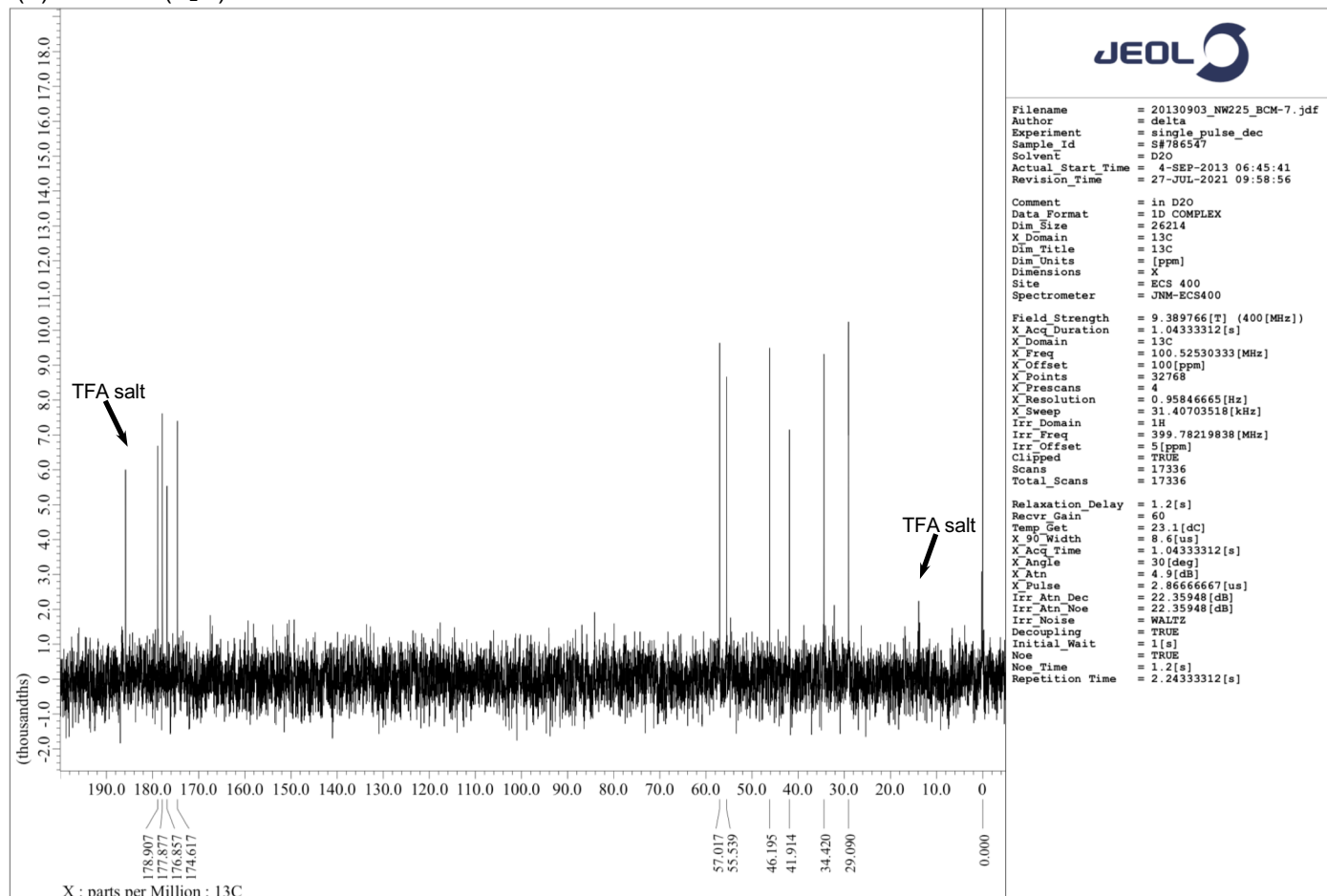


Fig. S1. (A) ^1H - and (B) ^{13}C -NMR spectra of glutathione trisulfide (GSSSG).

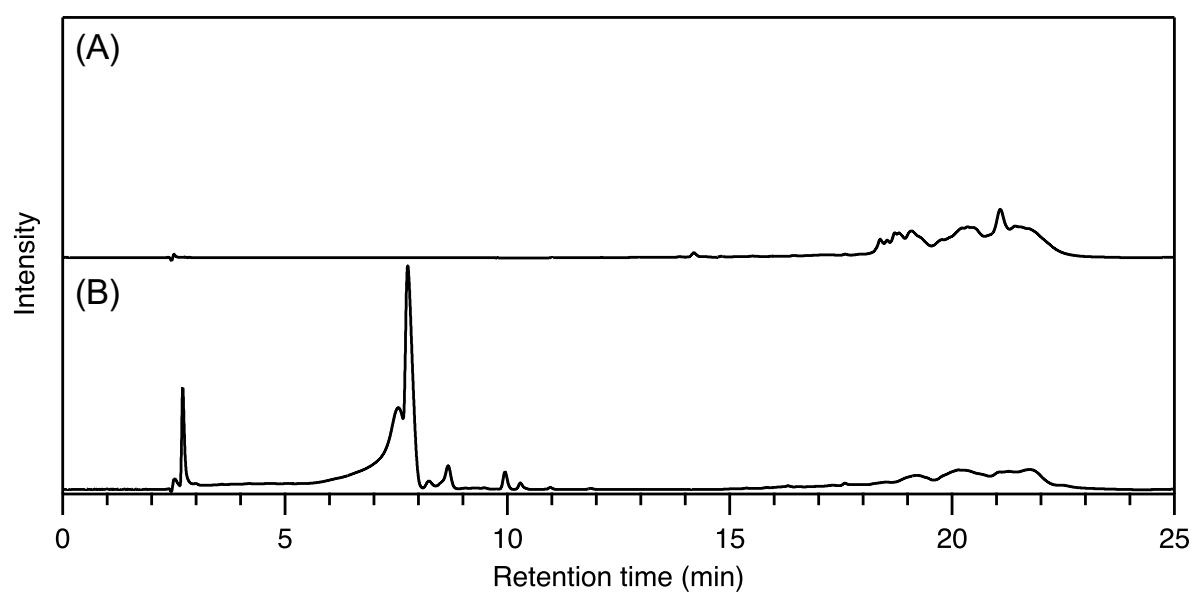


Fig. S2 HPLC chromatograms of the reaction solutions containing (A) LA (5 mM) and (B) GSSG (25 mM) after UVL-irradiation.

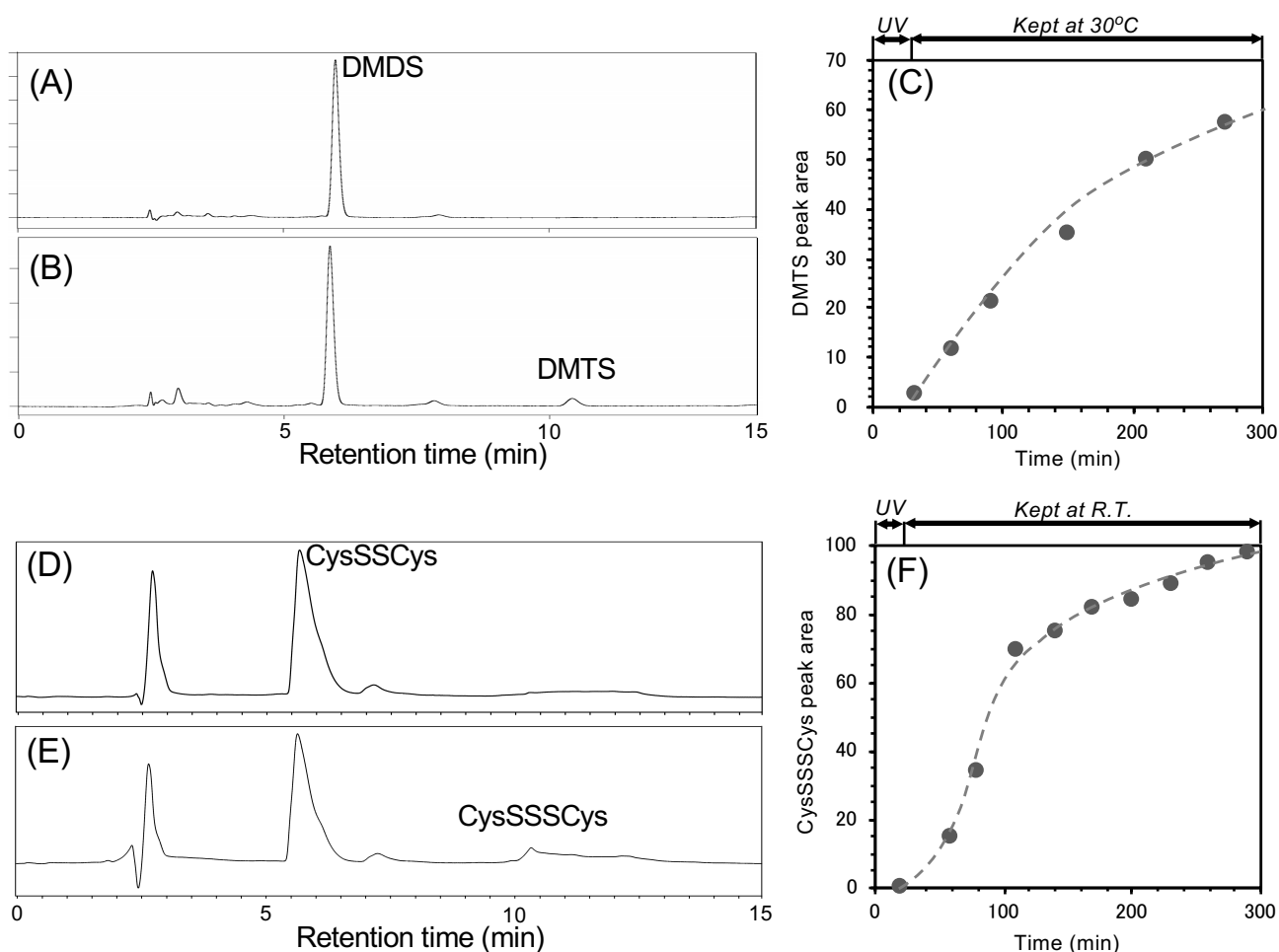


Fig. S3 HPLC chromatograms of the reaction solutions containing LA (1 mM) and dimethyldisulfide (DMDS) (5 mM). (A) before and (B) after UVL-irradiation. (C) Time course for the amount of Dimethyltrisulfide (DMTS) at 37 °C after the UVL-irradiation. HPLC chromatograms of the reaction solutions containing LA (0.1 mM) and cystine (CysSSCys) (0.5 mM) (D) before and (E) after UVL-irradiation. (F) Time course for the peak area assignable to CysSSSCys at 37 °C after the UVL-irradiation.

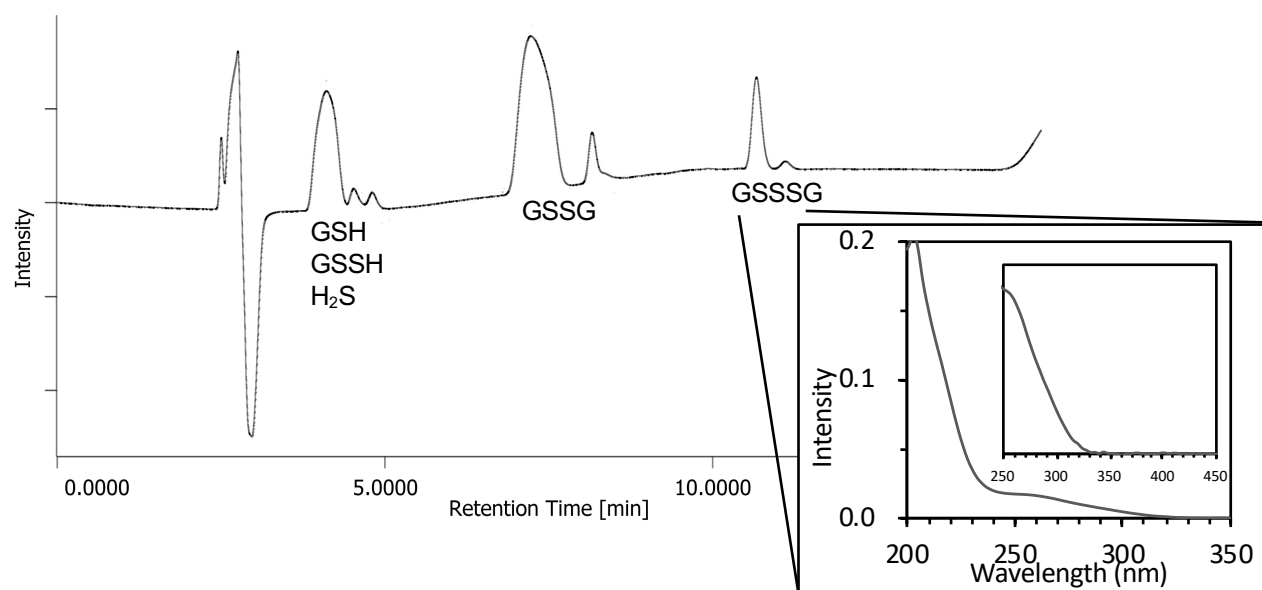


Fig. S4. HPLC profile for the reaction of GSSG with Na₂S -Formation of GSSSG-.
Eluent condition: H₂O–MeOH gradient with 0.05v% TFA.

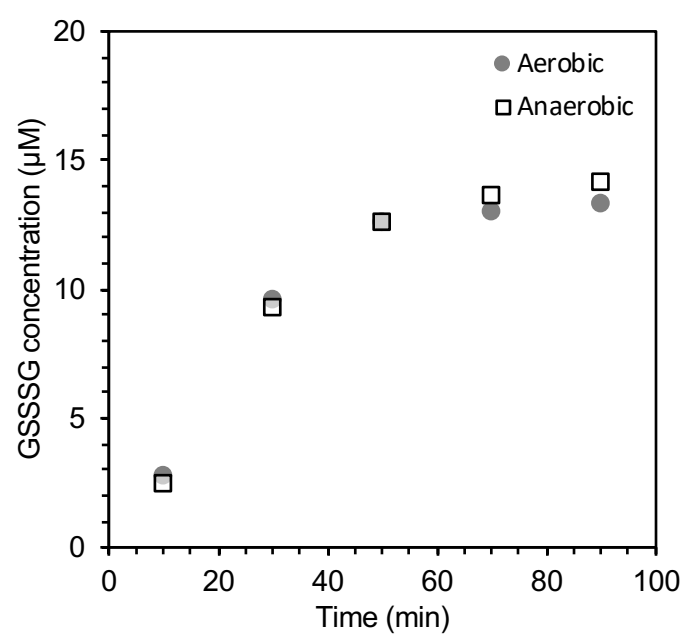


Fig. S5. Time dependence of GSSG formation in the aerobic and anaerobic conditions