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Supporting Information

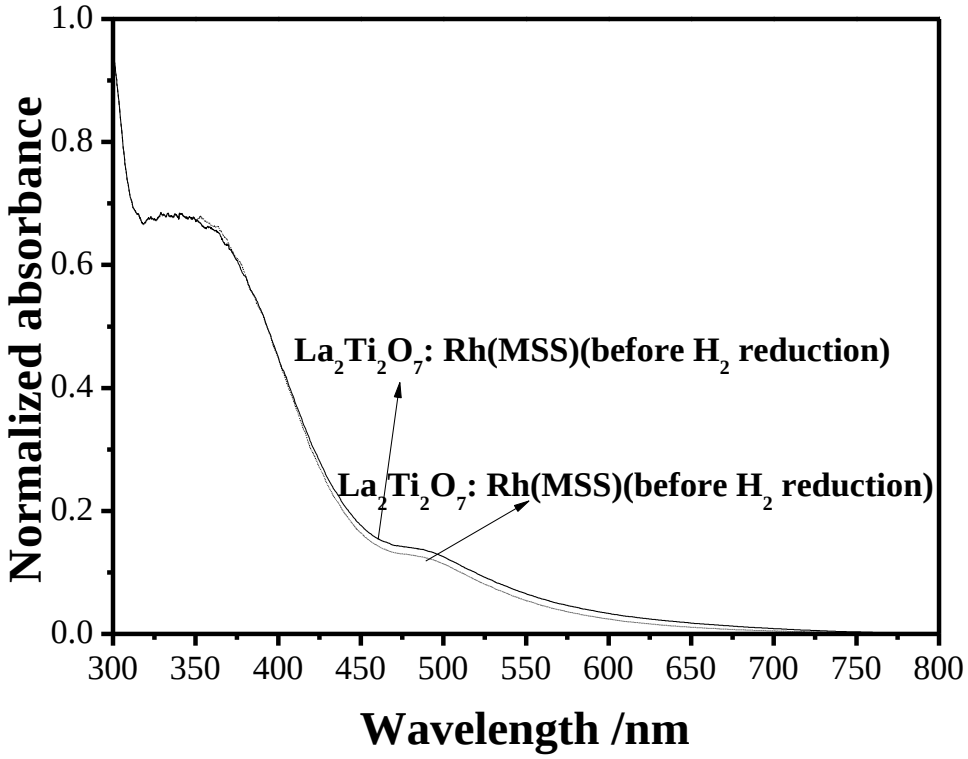

Fig. S1. Diffuse reflectance spectra for Rh-doped $La_2Ti_2O_7$ (MSS) before and after H_2 reduction treatment at 473 K for 2 h.

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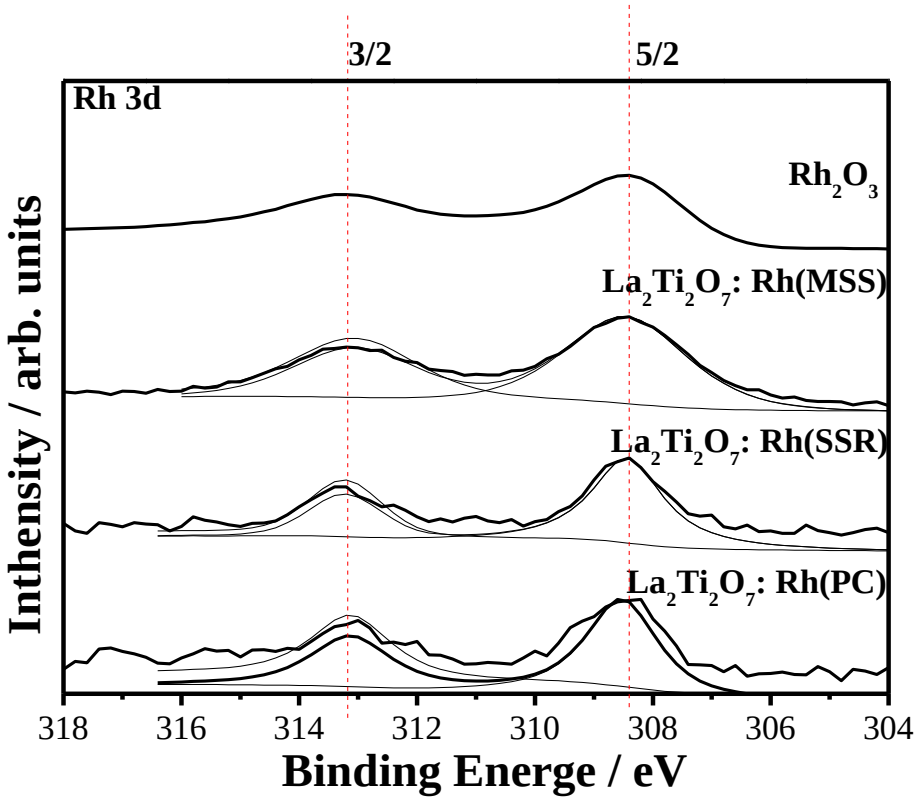

Fig. S2. X-ray photoelectron spectra for Rh 3d in Rh_2O_3, and Rh-doped $La_2Ti_2O_7$ prepared by the molten salt synthesis (Entry 2), SSR (Entry 3), and PC (Entry 4) methods.

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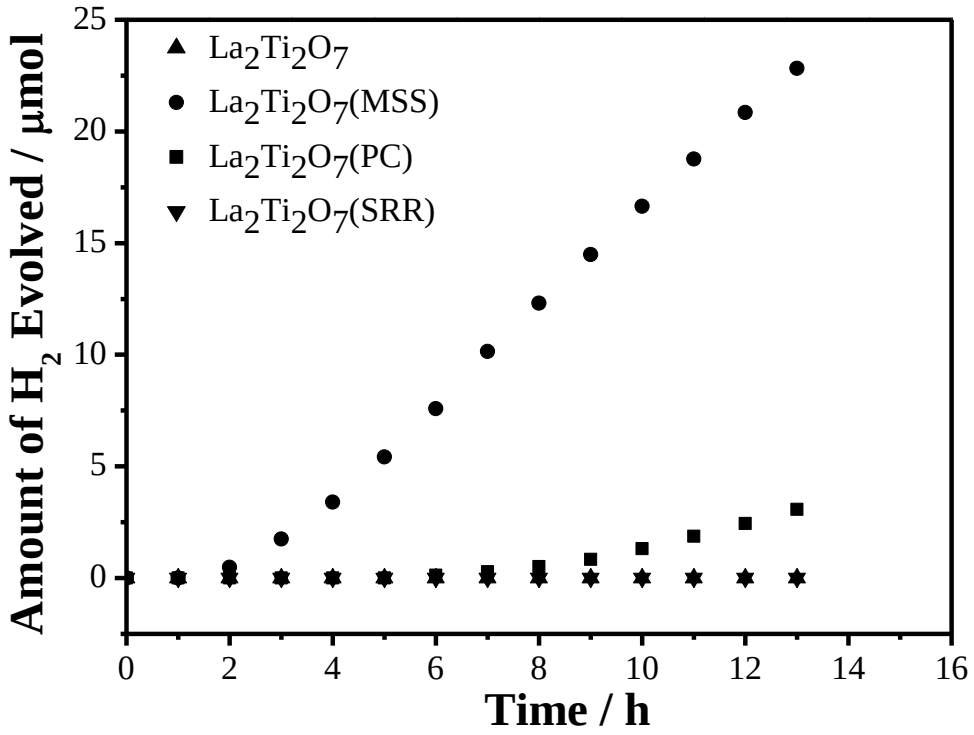

Fig. S3. Time courses of H_2 evolution over pristine $La_2Ti_2O_7$ (Entry 1), Pt/$La_2Ti_2O_7$: Rh (MSS) (Entry 2), Pt/$La_2Ti_2O_7$: Rh (SSR) (Entry 3), and Pt/$La_2Ti_2O_7$: Rh (PC) (Entry 4). Reaction conditions: Catalyst, 0.3 g; cocatalyst, Pt (0.5 wt%); reactant solution, 150 mL of 10 vol% aqueous methanol solution; light source, 300 W xenon lamp (λ > 420 nm).

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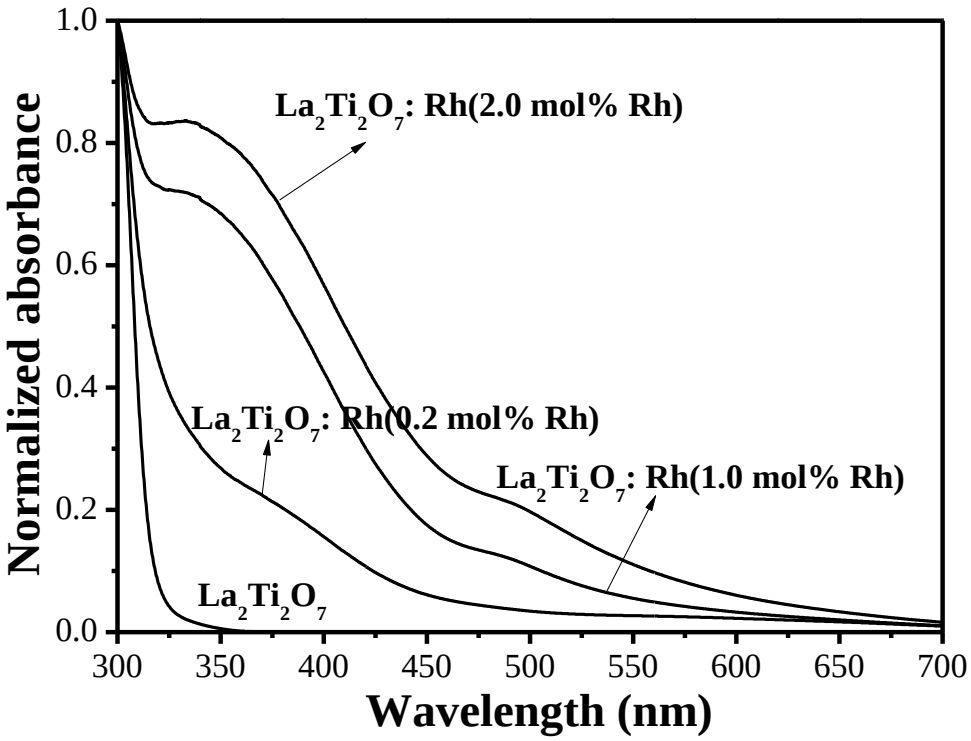

Fig. S4. Diffuse reflectance spectra for pristine $La_2Ti_2O_7$ and $La_2Ti_2O_7$ doped with 0.2, 1.0, and 2.0 mol% Rh with respect to Ti.

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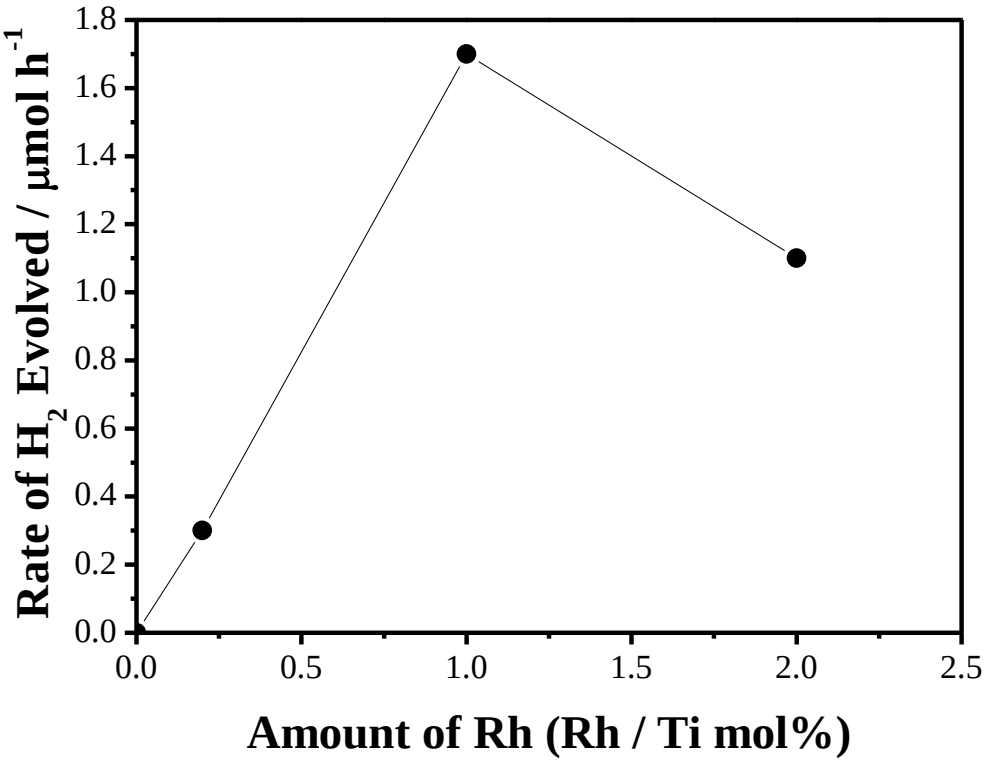

Fig. S5. Dependence of H_2 evolution activity of Rh-doped $La_2Ti_2O_7$ on the doping amount. Reaction conditions: Catalyst, 0.3 g; cocatalysts, Pt (0.5 wt%); reactant solution, 150 mL of 10 vol% aqueous methanol solution; light source, 300 W xenon lamp ($\lambda > 420$ nm).

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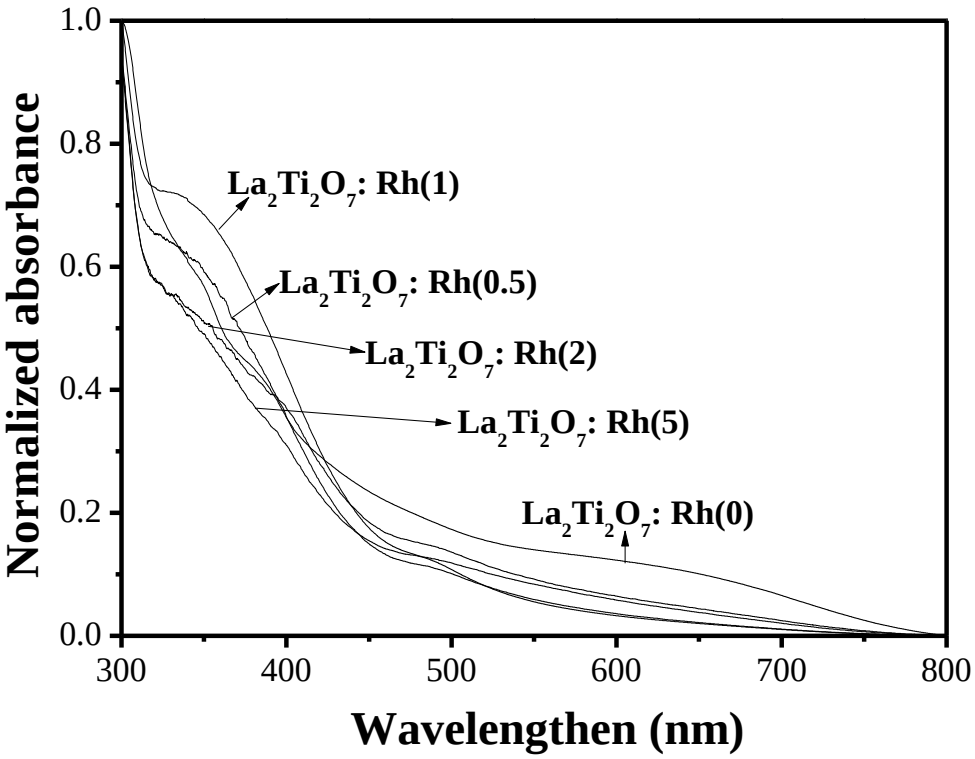

Fig. S6. Diffuse reflectance spectra for Rh-doped $La_2Ti_2O_7$ (1.0 mol% with respect to Ti) prepared with different amounts of molten salts. Mass ratio of molten salt to reactant: 0, 0.5, 1, 2, and 5.

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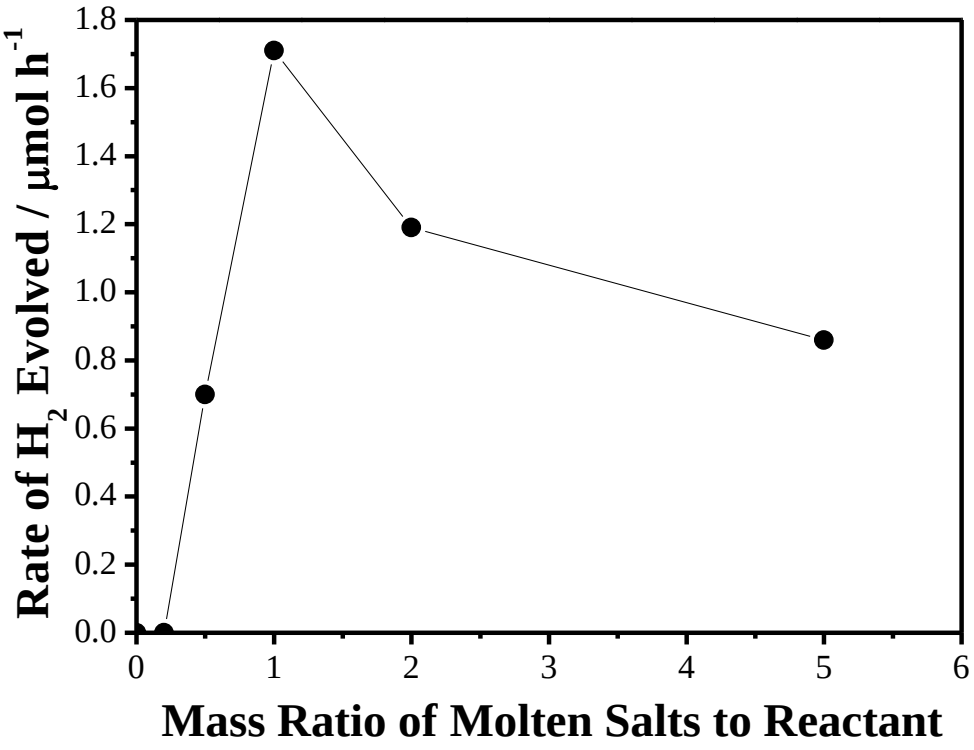

Fig. S7. Dependence of H_2 evolution activity of Rh-doped $La_2Ti_2O_7$ on the amount of molten salt. Reaction conditions: Catalyst, 0.3 g; cocatalysts, Pt (0.5 wt%); reactant solution, 150 mL of 10 vol% aqueous methanol solution; light source, 300 W xenon lamp ($\lambda > 420$ nm).