Electronic Supplementary Information

pH-Controlled selective synthesis of lactate from pyruvate with the photoredox system of water-soluble zinc porphyrin, electron mediator and platinum nanoparticles dispersed by polyvinylpyrrolidone

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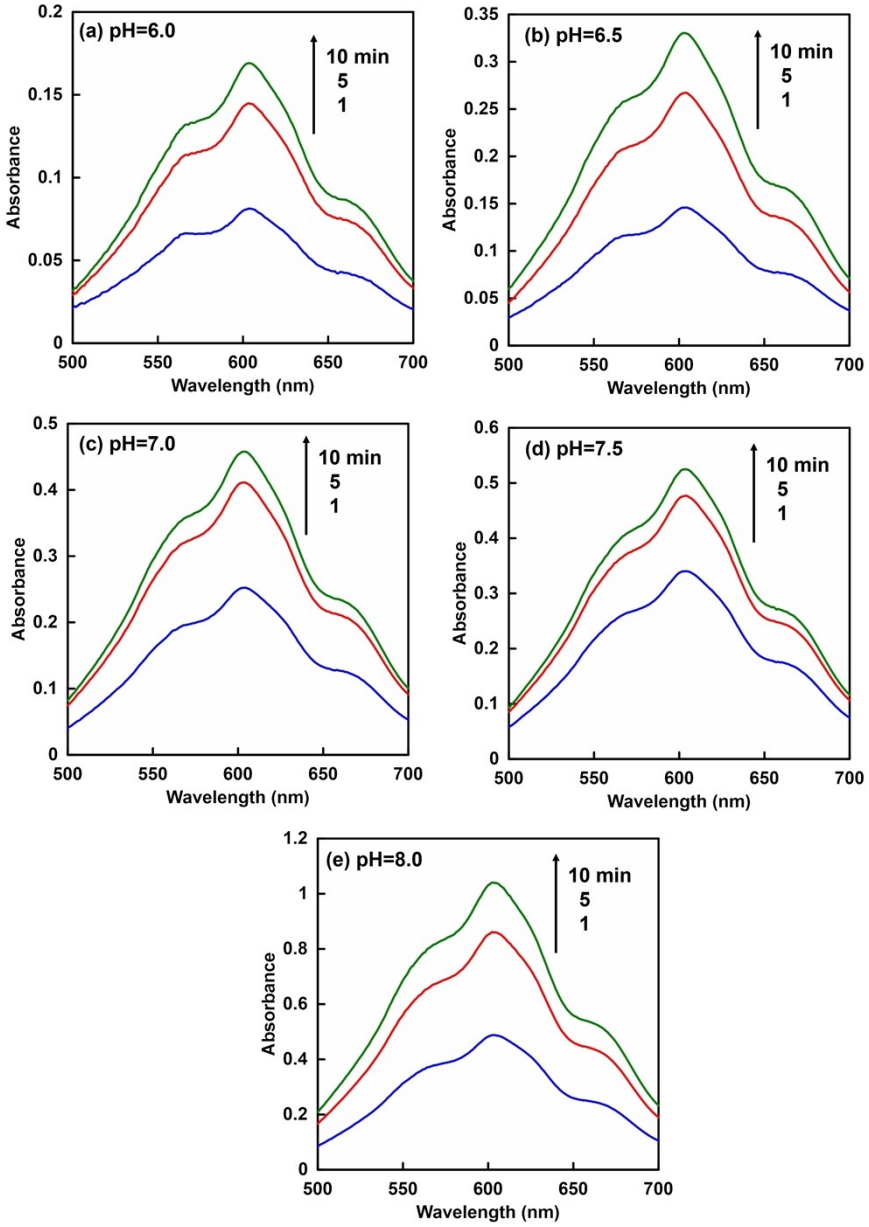

Figure S1. Time dependence of UV-vis absorption changes in the solution of TEOA, MV^{2+} and ZnTPPS with irradiation under various pH conditions. (a) pH 6.0, (b) 6.5, (c) 7.0, (d) 7.5 and (e) 8.0.

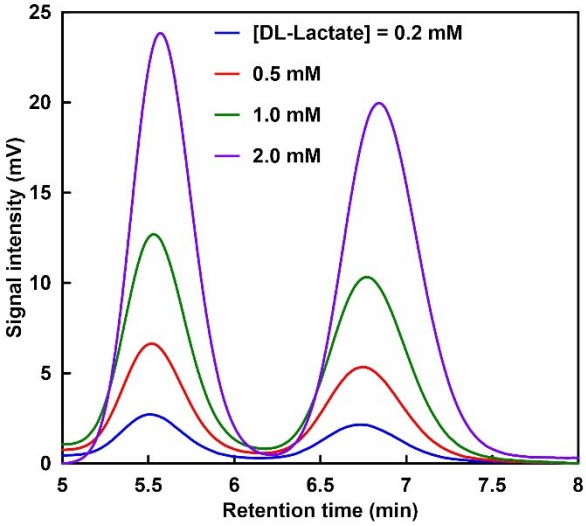

Figure S2. The chart of HPLC of the L- and D- lactate sample solution.

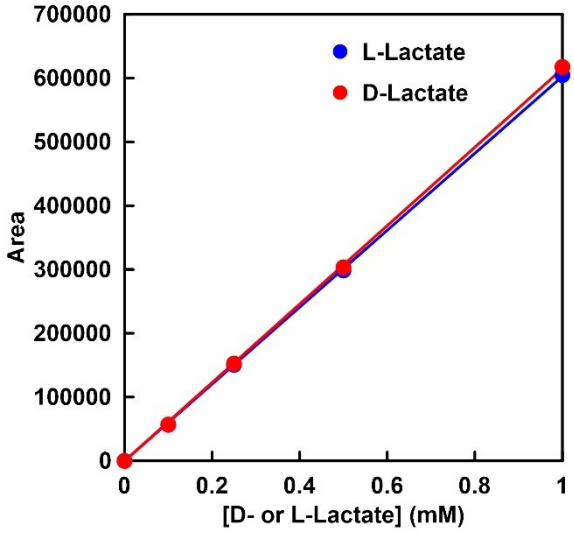

Figure S3. Relationship between the L- and D- lactate concentration and the detection peak area.

As shown in Figure S3, the L- and D- lactate concentration and the detected peak area showed a good linear relationship as following equation (eqns S1-1 and 2).

For L-lactate:

Peak area= 614791 × [L-Lactate] (mM) (correlation coefficient r^2=0.999) (S1-1)

For D-lactate:

Peak area= 602888 × [D-Lactate] (mM) (r^2=0.999) (S1-2)