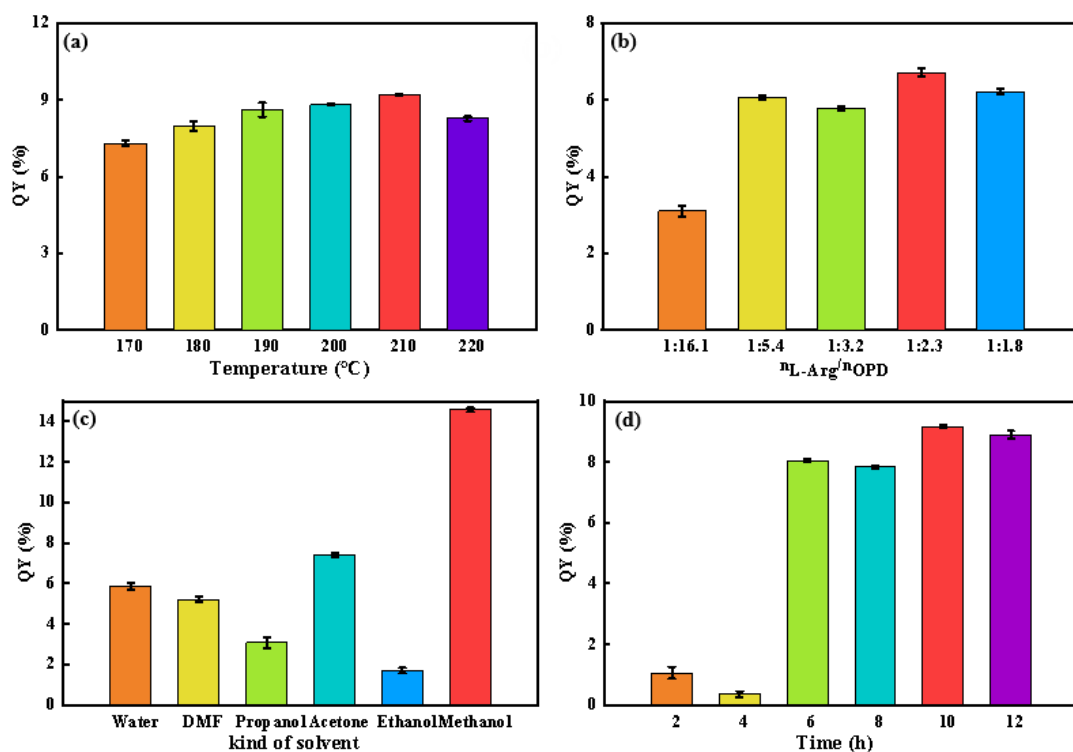
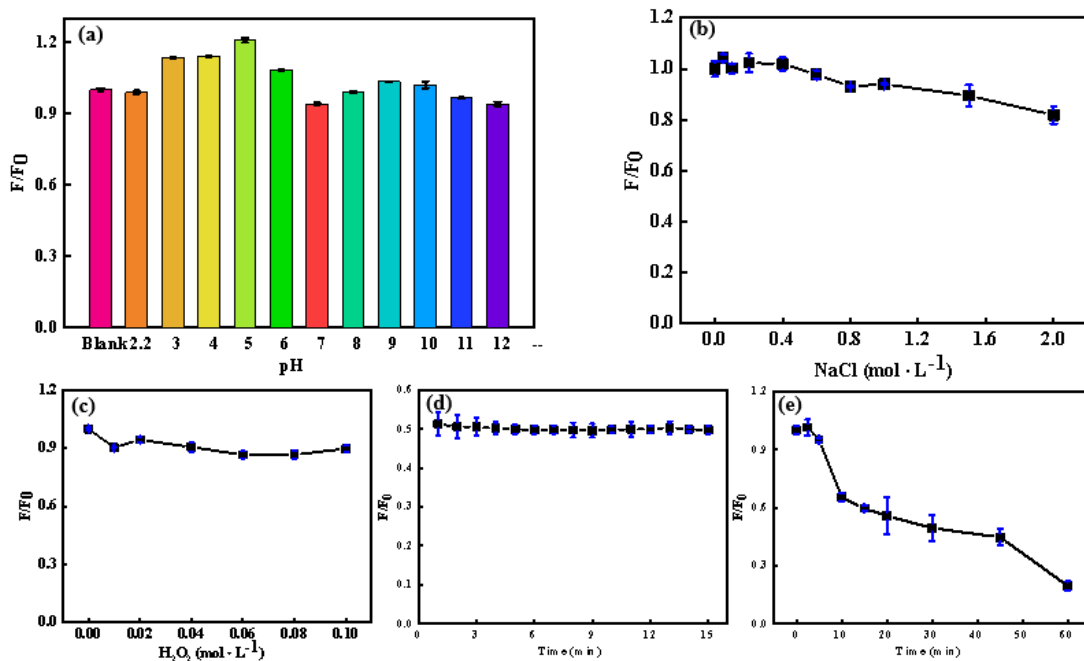


### Electronic Supplementary Material



**Fig. S1** Optimization of preparation conditions. The QY of L-Arg/oPD-CDs varies in different reaction temperatures(a), proportions of L-arginine and oPD (b), reaction solvents (c) and reaction times(d).



**Fig. S2** Fluorescence intensity of L-Arg/oPD-CDs at different pH value from 2.2 to 12 (a), 0-2 mM NaCl concentration (b), antioxidant performance (c), and reaction time under natural light (d) and UV light (e).

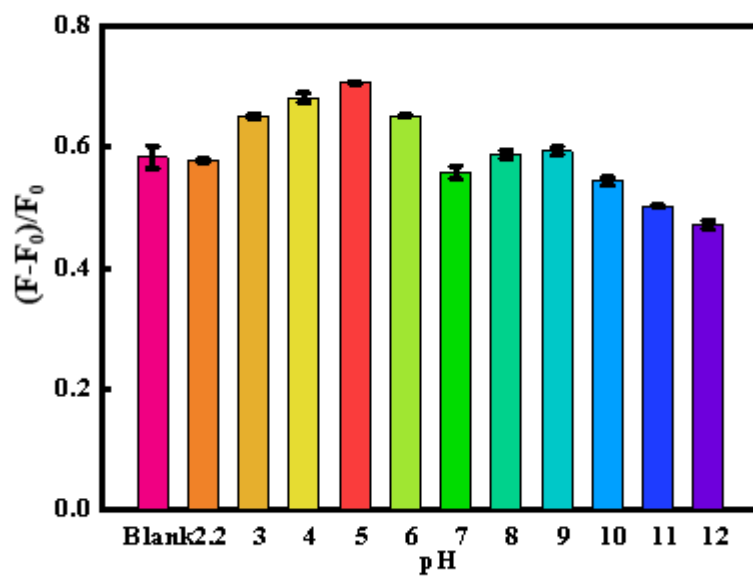


Fig. S3 Fluorescence intensity of L-Arg/oPD-CDs detecting Tartrazine at different pH value from 2.2 to 12.

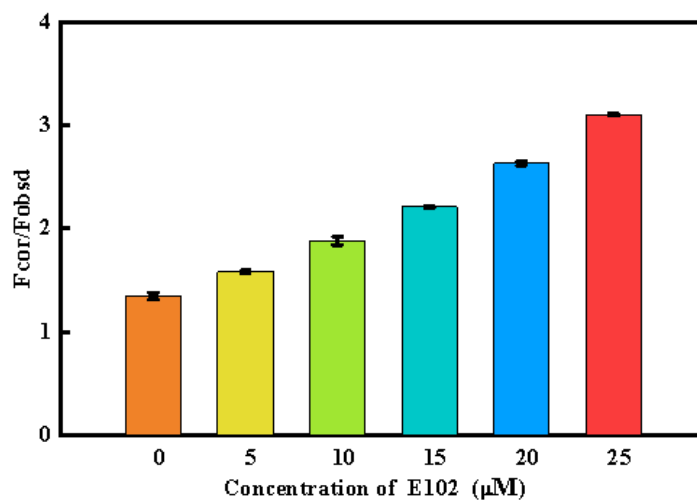


Fig. S4 Parker equation of Tartrazine at different concentrations (0-25  $\mu\text{M}$ ).