

## Supporting Information

### Preparation of fluorescent organic nanoparticles via self-polymerization for tartrazine detection in food samples

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**Table 1** The fitted lifetimes and respective parameters of PDA NPs with and without 30  $\mu$ M tartrazine (here,  $\tau_{average} = (B_1\tau_1^2 + B_2\tau_2^2 + B_3\tau_3^2)/(B_1\tau_1 + B_2\tau_2 + B_3\tau_3)$ )

Samples	$\tau_1$ (ns)	$B_1$	$\tau_2$ (ns)	$B_2$	$\tau_3$ (ns)	$B_3$	$\tau_{average}$ (ns)
PDA NPs	0.6389	1398.57	3.2336	1148.944	7.6445	558.1998	5.1
PDA NPs + tartrazine	0.5697	1788.658	3.1797	990.9041	8.2188	383.7544	5.0

**Table 2** Comparison of different fluorescent probes towards tartrazine from the aspects of sensing range, detection limit and responsive time

Methods	sensing range/( $\mu\text{M}$ )	detection limit/(nM)	responsive time/(min)	References
fluorescent polydopamine nanoparticles (PDA NPs)	1.5-45	550	2	This work
fluorescent nickel nanoclusters	0.01-3.5	4	3	[1]
nitrogen and sulfur co-doped carbon quantum dots	11.16-36.56	18	5	[2]
3-mercapto-1,2,4-triazolecapped gold nanoclusters	0.08-37.5	28	5	[3]
N,Cl co-doped fluorescent carbon dots	0.1-30	48	Not mentioned	[4]
aloe derived carbon quantum dots	0.25-32.50	73	5	[5]
hydroxypropyl- $\beta$ -cyclodextrin capped sulfur quantum dots	0-30	82	2	[6]

### References

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