Supporting Information

According to the classical optical reference method, the PL quantum yield (QY) of GQDs-PEI and GQDs were measured and calculated using quinine sulfate as a reference, by the following formula:

$$\varphi_x = \varphi_{st}(\frac{A_x / Abs_x}{A_{st} / Abs_{st}})(\frac{\eta_x}{\eta_{st}})^2$$

Where φ stands for the quantum yield, A is the integral area of fluorescence emission peak intensity of PL spectrum, Abs is the corresponding absorbance of the sample, η is the refractive index of the solvent, subscripts st and x refer to the standard (which is quinine sulfate in this paper) and the unknown respectively.

As shown in Tab. S1, at 350 nm excitation the PL quantum yield (QY) of GQDs-PEI is *ca.* 53.0%, much higher than GQDs without surface passivation which is 6.5% similar to the reported by Pan et al..

Tab. S1 Quantum yield calculation for GQDs-PEI and GQDs with quinine sulfate as reference

Samples	*A*		η	φ
quinine sulfate	*Abs*	0.0864	1. 333	0. 58
	A_{st}	1.25E+09		
GQDs−PEI	*Abs*	0.0816	1. 362	0. 530
	A_x	6.24E+08		
GQDs	*Abs*	0.098	1. 362	0. 065
	A_x	1.52E+08		