Supporting Information

A graphitic-C_3N_4 derivative containing heptazines merging with phenyls: synthesis, purification and application as a high-efficient metal-free quasi-green phosphor for white LEDs

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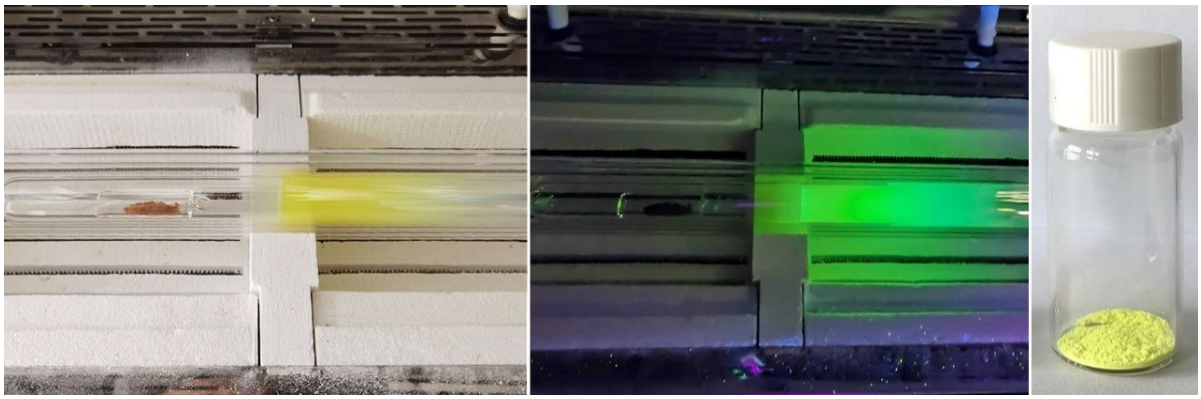

Figure S1. s-g-C_3N_4-Ph in the tube of the sublimator under natural light (left) and 365 nm UV light (middle), s-g-C_3N_4-Ph in sample bottle (right).

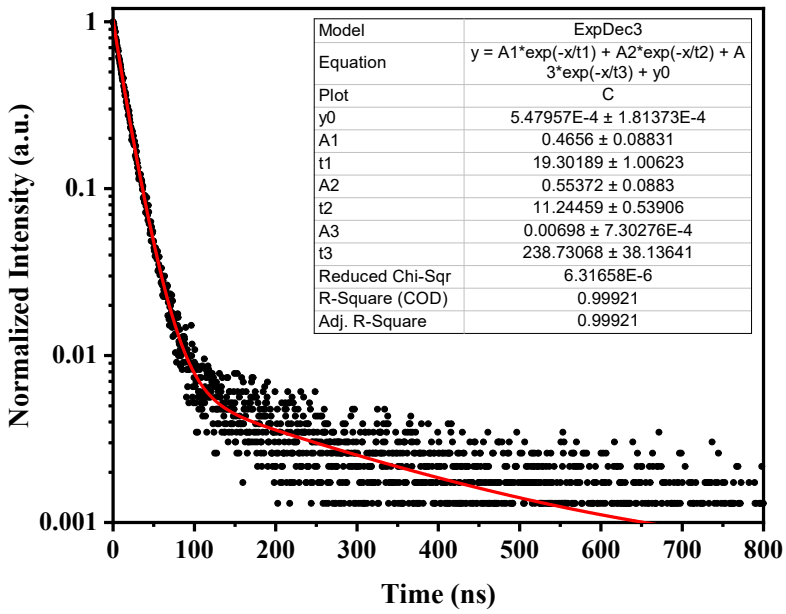

Figure S2. The PL decay curve (black) and corresponding tri-exponential fitting line (red) of s-g-C_3N_4-Ph. Inset: Fitting data.

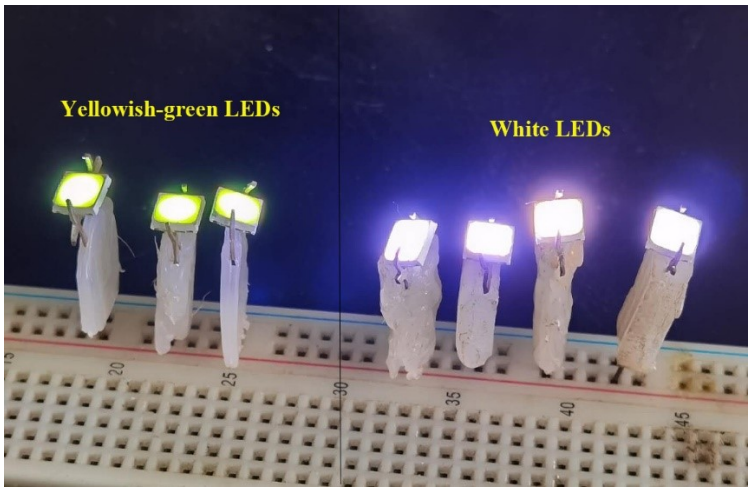

Figure S3. photographs of some LEDs in working.

Table S1. PL data of g-C_3N_4, g-C_3N_4-Ph and s-g-C_3N_4-Ph

Materials	Emission region (nm)	$\lambda_{ex,max}$ (nm)	$\lambda_{em,max}$ (nm)	CIE value (x, y)	QY (%)
g-C_3N_4	425~575	361	467	(0.14, 0.20)	8.0
g-C_3N_4-Ph	455~625	326	508	(0.21, 0.55)	24.0
s-g-C_3N_4-Ph	460~650	463	517	(0.26, 0.62)	45.5

Table S2. $\lambda_{em,max}$, the maximum PL emission intensities and corresponding relative intensities (λ_{ex} = 463 nm) of s-g-C_3N_4-Ph powders measured at every 20 °C from 20 °C to 200 °C

Temperature (°C)	20	40	60	80	100	120	140	160	180	200
$\lambda_{em,max}$ (nm)	517	517	517	518	518	518	519	519	519	520
Intensity (a. u.)	615	602	590	582	558	530	513	504	494	475
Relative intensity (%)	100.0	97.9	96.0	94.6	90.8	86.2	83.4	82.0	80.3	77.2