Supporting Information

High sensitive and selective turn-on fluorescent probe for Cu\(^{2+}\) based on Rhodamine B

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Figure S1. Job-plot for the complexation of Cu\(^{2+}\) ion with RL determined by UV-vis method (at 556 nm). Total concentration of RL and Cu\(^{2+}\) ions is 20 \(\mu M\).
Figure S2. Fluorescence intensity (I_{582nm}) of RL (10 μM) in the presence of CuCl₂ (30 μM) after addition of EDTA (0-50 μM) in CH₃CN/H₂O (1:9, v/v) buffered with Britton-Robinson, pH = 7.02. λ_ex = 540 nm.

Figure S3. Cytotoxicity studies of RL in cancer cells by MTT analysis.
Figure S4. The Mass Spectra of RL before and after the addition of Cu²⁺.
**Figure S5.** Photographs of the RL-Cu$^{2+}$ solution on silica gel GF254 plates with the methanol and dichloromethane (1:20) as eluent under irradiation of a UV 365 nm lamp.

**Figure S6.** The $^1$HNMR Spectra of RL-Cu and R1 in CDCl$_3$
**Figure S7.** A photograph of the colorless and colored R1 in NMR tube, $^1$H NMR spectra of the colorless and colored R1 in comparison with RL-Cu in DMSO-$d_6$

**Figure S8.** The TOF-MS Spectra of RL-Cu
Figure S9. The HRMS of R1

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15010805 84 (0.829) AM (Cen, 2, 80.00, Ht, 5000.0, 0.00, 1.00); Sm (Mn, 2x3.00); Cm (72:99)

Figure S10. The TOF-MS Spectra of RL
Figure S11. The $^1$HNMR Spectra of RL in CDCl$_3$

Figure S12. The $^{13}$C NMR Spectra of RL in CDCl$_3$