

Colorimetric and fluorescent sensing of pyrophosphate in 100% aqueous solution using
rhodamine B derivative and Al^{3+} complex

Chuda Raj Lohani,^a Joung-Min Kim,^a So-Young Chung,^b Juyoung Yoon^{b,*} and Keun-Hyeung
Lee^{a,*}

^aBioorganic Chemistry Lab
Department of Chemistry, Inha University
253 Younghyun-Dong, Nam-Gu, Incheon-City
402-751, Republic of Korea

^bDepartment of Chemistry and Nano Science and Department of Bioinspired Science,
Ewha Womans University, Seoul 120-750,
Republic of Korea

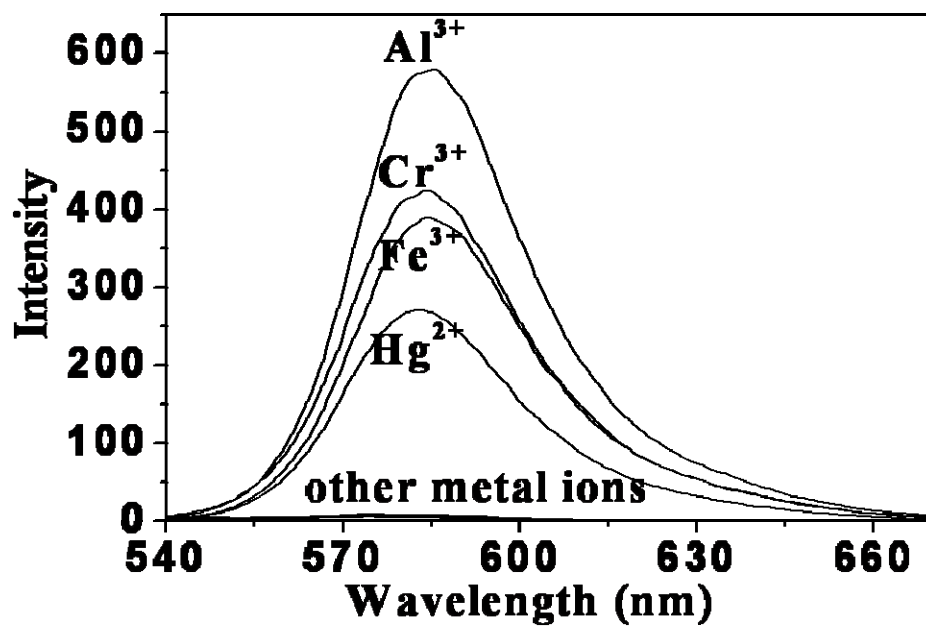


Figure S1. Fluorescent emission change of **1** (40 μM) upon addition of various metal ions (10 equiv) at pH 7.4 (1 mM HEPES) ($\lambda_{\text{ex}} = 510$ nm, Slit: 10 nm/5 nm)

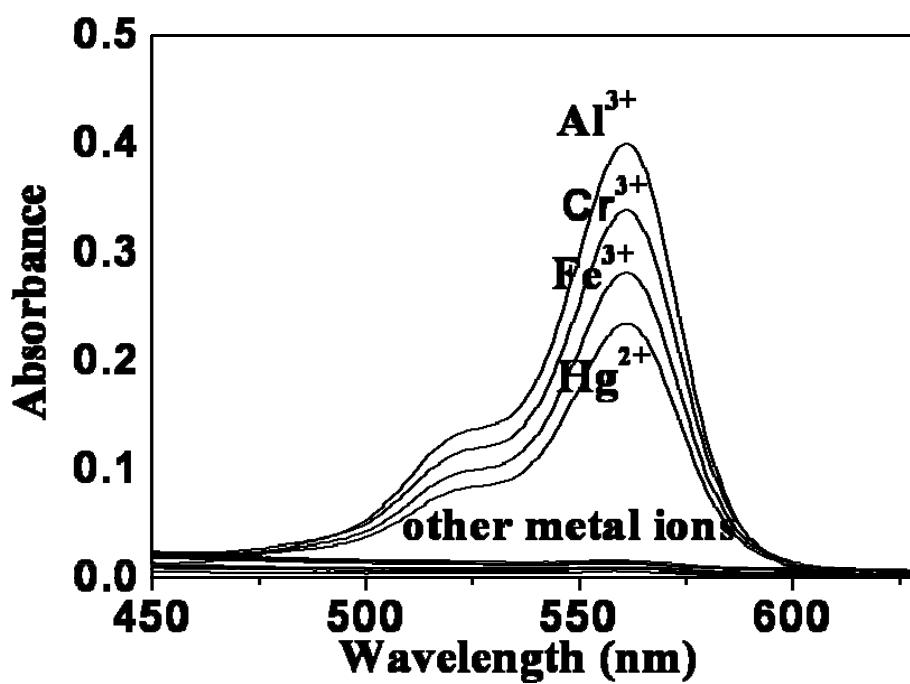


Figure S2. Colorimetric change of **1** (40 μM) upon addition of various metal ions (10 equiv) at pH 7.4 (1 mM HEPES) ($\lambda_{\text{ex}} = 510$ nm, Slit: 10 nm/5 nm)

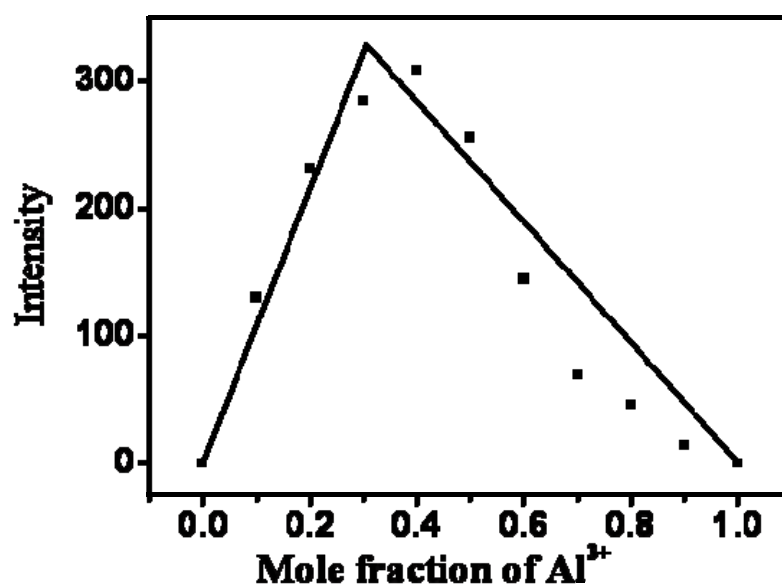


Figure S3. Job plot for **1**- Al^{3+} complexes in 1 mM HEPES buffer at pH 7.0. Total concentration $[\mathbf{1}] + [\text{Al}^{3+}] = 100 \mu\text{M}$.

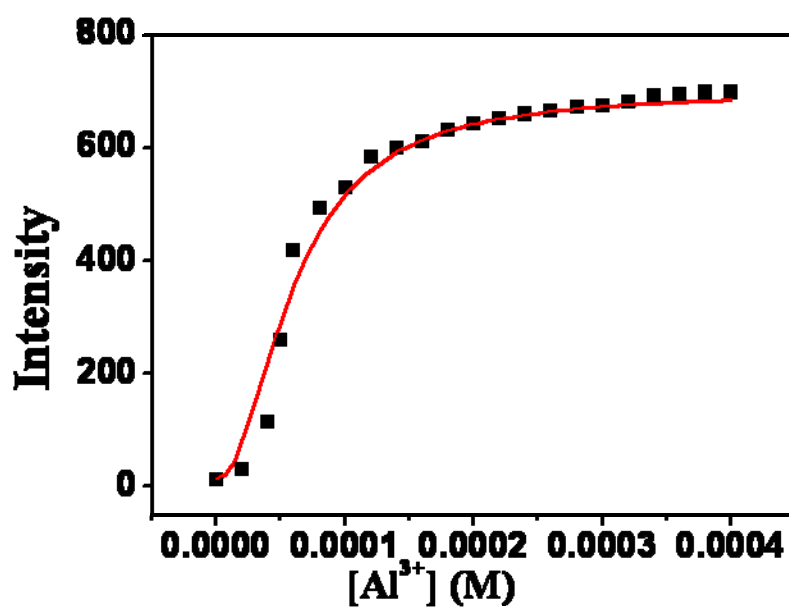
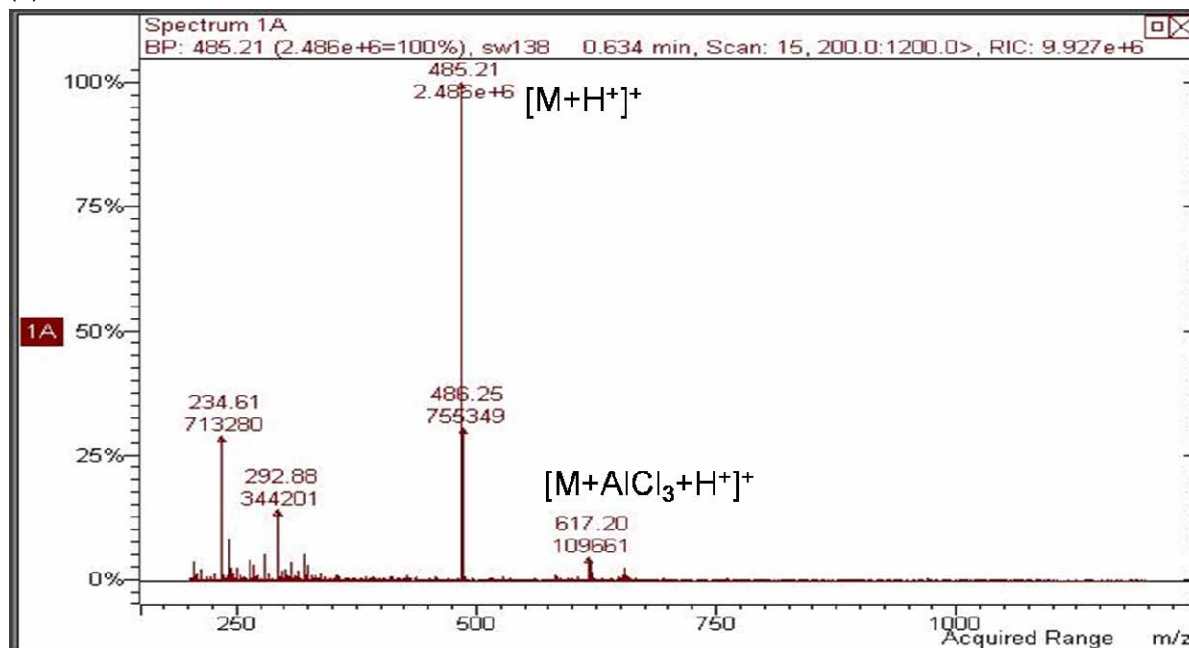


Figure S4. Theoretical fit to the experimental data (■) obtained from the maximum intensity as a function of the addition of Al^{3+} to **1** (40 μ M) in 1 mM HEPES buffer at pH 7.0.

(a)



(b)

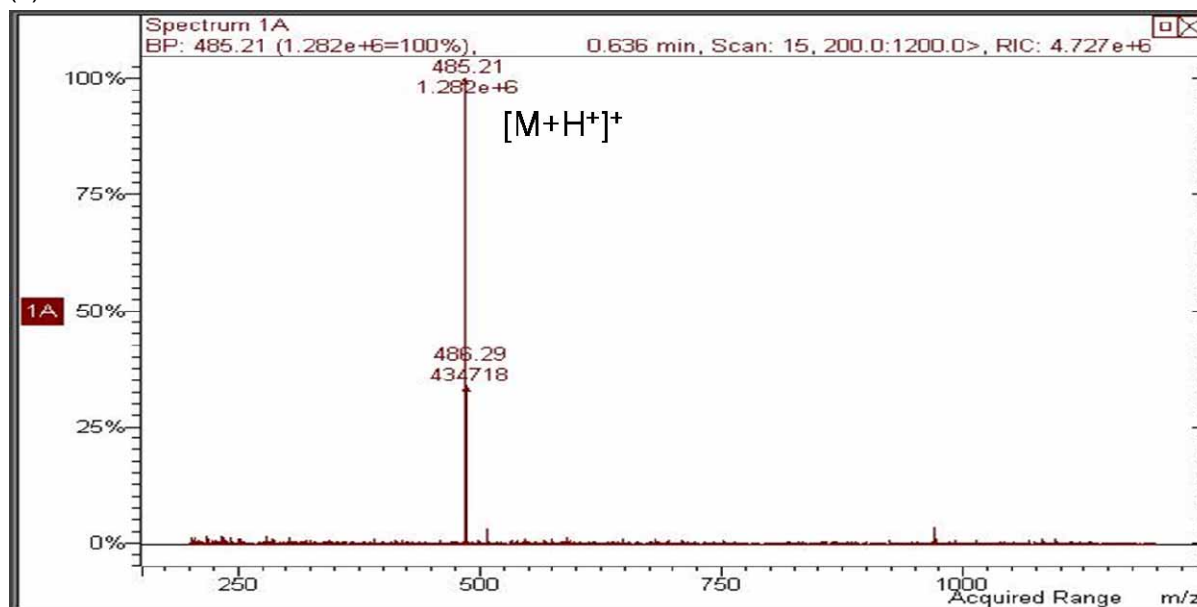


Figure S5. ESI mass spectra of **1** (40 μ M) with Al³⁺ (10 equiv) in the absence (a) and presence (b) of PPI (10 equiv) in MeOH.