

A Supramolecular Fluorescent Probe Activated by Protons to Detect Cesium and  
Potassium Ions Mimics the Function of a Logic Gate

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A dual fluorescent sensor, **1**, has been synthesized for the detection of both cesium and potassium ions in solution at two different pHs. In acidic solutions, **1-H<sup>+</sup>** can detect cesium at concentration as low as  $10^{-7}$ M without any interference from the potassium ion presence (up to  $10^{-5}$ M). Conversely, in basic solutions, **1** can respond to low concentration of potassium ions ( $10^{-6}$ M) with no interference from the cesium ions at concentration as high as  $5 \times 10^{-4}$ M. This supramolecular system can also mimic the function of an integrated logic gate.

Figure goes here.

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