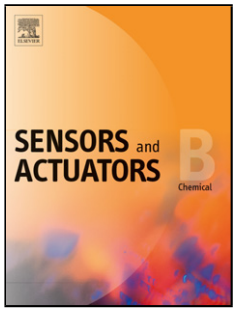

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Exploration the effect of structural adjustment on identifying medium and bio-targeting based on two similar coumarin compounds

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Graphical abstract

Two novel similar structural coumarin-based fluorescent compounds **L1** and **L2** were designed and prepared. The obtained **L2** through slightly adjusting structure of **L1** could recognize Hg^{2+} and Cu^{2+} in H_2O by the different fluorescent responses, which could monitor the corresponding metal ions in mitochondria. Bio-imaging experiments revealed that **L1** and **L2** could qualitatively monitor Hg^{2+} or Cu^{2+} in Hela cells and mouse kidney tissues.