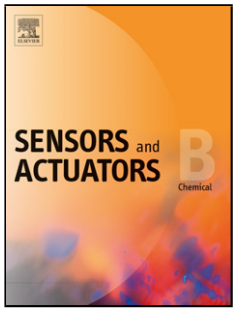

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The sensing property of charge-transfer chemosensors tuned by acceptors for colorimetric and fluorometric detection of CN^-/HCN in solutions and in gas phase

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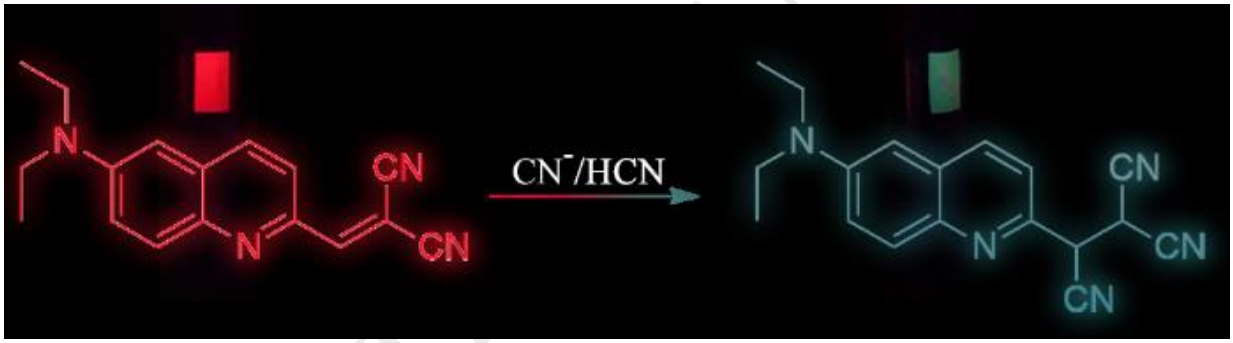
Graphical abstract:



Highlights

- Four charge-transfer sensors **3a–3d** for CN^- were synthesized, among them the sensor **3a** with dicyanovinyl group exhibits fast response (~10 s), a low detection limit (15 nM) and high selectivity.
- The sensing behavior of these sensors depends on the electron-withdrawing ability of substituents at vinyl.