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Title: Solvatochromic isocyanonaphthalene dyes as ligands for Silver(I) complexes, their applicability in silver(I) detection and background reduction in biolabelling

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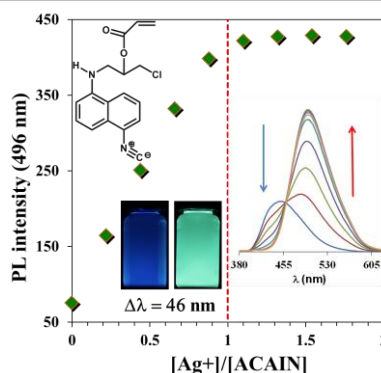
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Graphical Abstract

The exclusive presence of highly stable, fluorescent 1:1 AgL complex was detected and supported by DFT calculations upon the complexation of solvatochromic, reactive and nonreactive N-substituted ICANs with Ag(I) ions. 30-59 nm bathochromic shift of $\lambda_{em,max}$ was observed, accompanied by a ligand dependent switch-off or switch-on effect, which was used for quantification of Ag(I) ions and contrast enhancement during the staining of HaCat cells.



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Highlights

- Silver-isocyanide complexes with solvatochromic fluorescent dyes as ligand were prepared.
- The complexation of the dyes can be used for the quantification of silver(I) ions.
- The PL switch-off in the case of MICAN yields a significant contrast enhancement in biolabeling.
- Cell staining applications of the complex(es) is shown on fixated HaCat cells.

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