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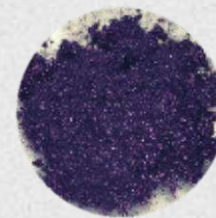
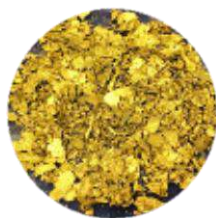


МИНИСТЕРСТВО
НА ОБРАЗОВАНИЕТО
И НАУКАТА



Група № 3.2.1: Фотоанизотропни материали за приложения в поляризационната холография и фотониката

доц. д-р Атанас Курутос



A DUAL-RESPONSIVE DANSYL-NAPHTHALIMIDE SYSTEM for Hg(II) CHEF DETECTION & Cu(II)

Dyes and Pigments 243 (2025) 113088



A dual-responsive Dansyl-Naphthalimide system for Hg(II) CHEF detection and ligand-mediated Cu(II) reduction with catalytic relevance

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Luisa B. Maia^{c,g}, Oleksandr Bondarchuk^h, Ivaylo Slavchev^h, Jose Luis Capelo-Martínez^{a,h},
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^b Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev Str., Bl. 9, 1113, Sofia, Bulgaria

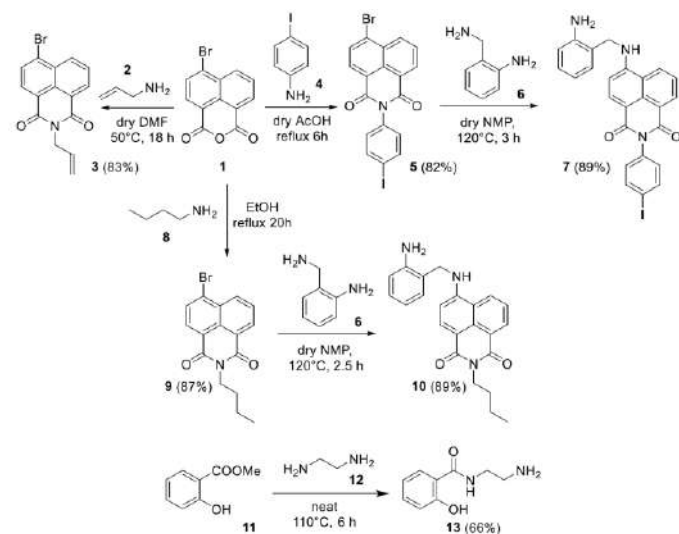
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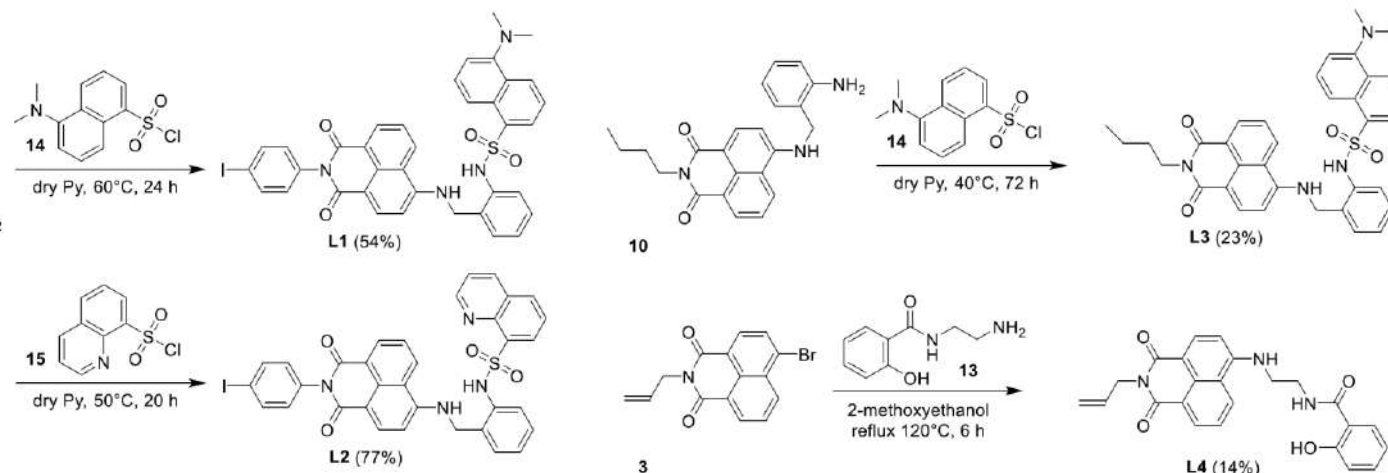
^e LAQV-REQUIMTE, Chemistry Department, NOVA School of Science and Technology, FCT NOVA, Universidade NOVA de Lisboa, 2829-516, Caparica, Portugal

^f International Iberian Nanotechnology Laboratory - INL, Avenida Mestre José Veiga S/n, 4715-330, Braga, Portugal

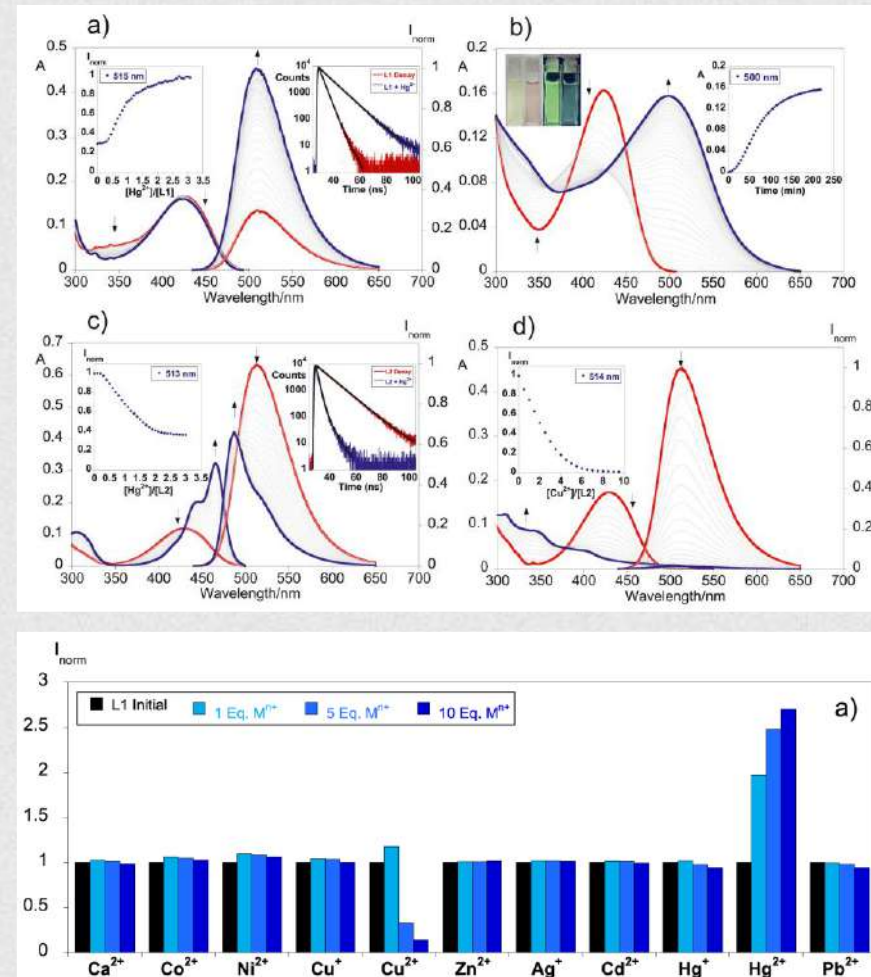
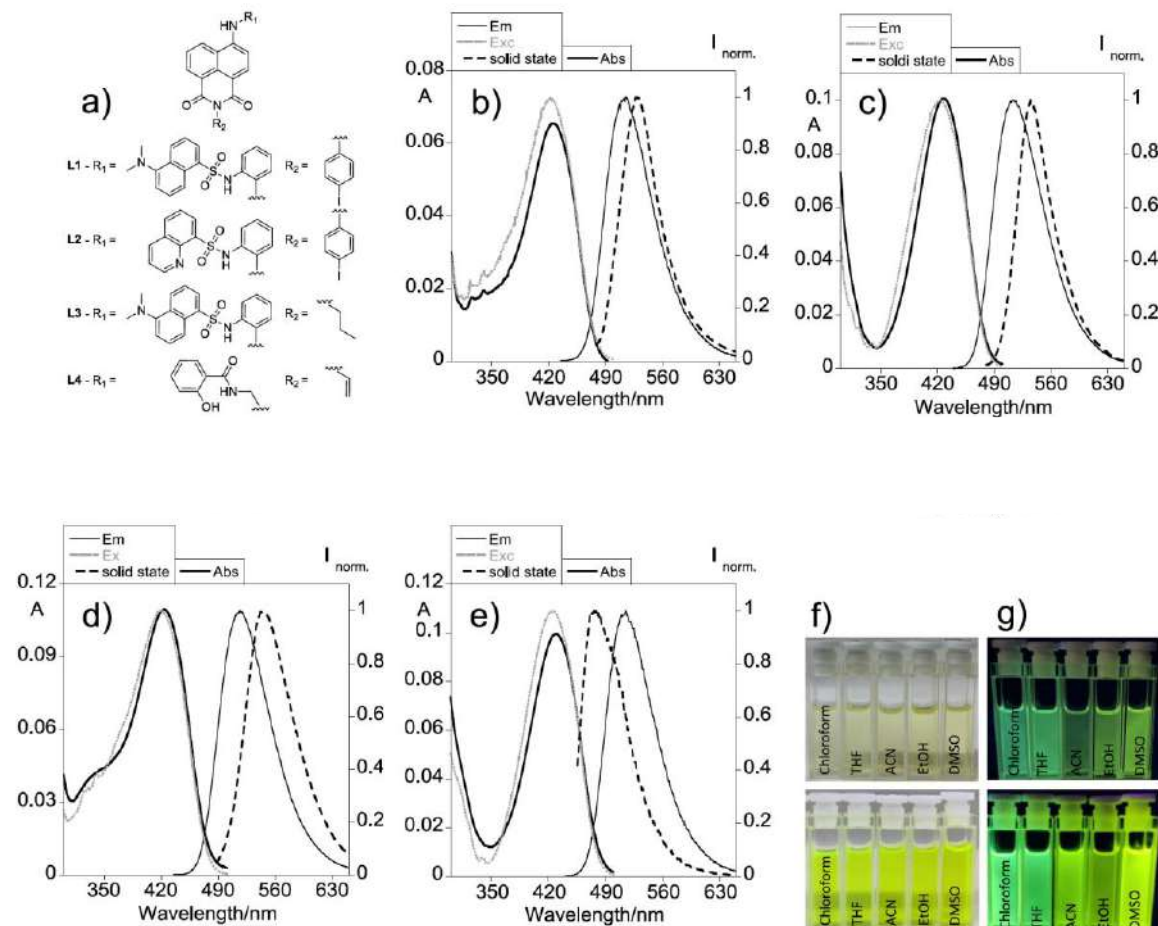
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- Dual-Mode Detection for Hg²⁺ and Cu²⁺ Ions;
- “Turn-on” fluorescence sensing for mercury and visible colorimetric detection for copper, bypassing the typical fluorescence quenching caused by these heavy metal ions;
- Rare Observation of Valence Tautomerism in Copper Complexes;
- Chelation-Enhanced Fluorescence (CHEF) Mechanism for Hg²⁺ Sensing;
- Catalytic Activity Enabled by *In-Situ* Copper(I) Formation;
- Self-promoting Ullmann-type carbon-iodine bond activation.



A DUAL-RESPONSIVE DANSYL-NAPHTHALIMIDE SYSTEM for Hg(II) CHEF DETECTION & Cu(II) REDUCTION



TARGETED IDENTIFICATION OF CYANIDE & FLUORIDE IONS

Inorganic Chemistry Communications 181 (2025) 115290



Contents lists available at ScienceDirect

Inorganic Chemistry Communications

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Research Article

Targeted identification of cyanide and fluoride ions utilizing dansyl-derived fluorescent probes: a deprotonation-driven sensing mechanism

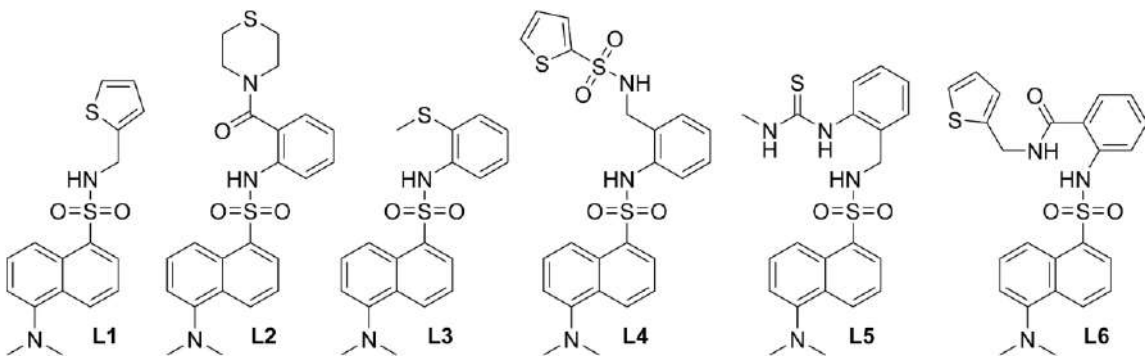
Gonçalo Pedro^{a,b}, Frederico Duarte^{a,b}, Igor Lourenço^a, Georgi M. Dobrikov^{c,*},
Atanas Kurutos^{c,d,*}, Luz Fernandes^a, Elvira Gaspar^a, Hugo M. Santos^{a,b},
José Luis Capelo-Martínez^{a,b}, Elisabete Oliveira^{a,b}, Carlos Lodeiro^{a,b,*}

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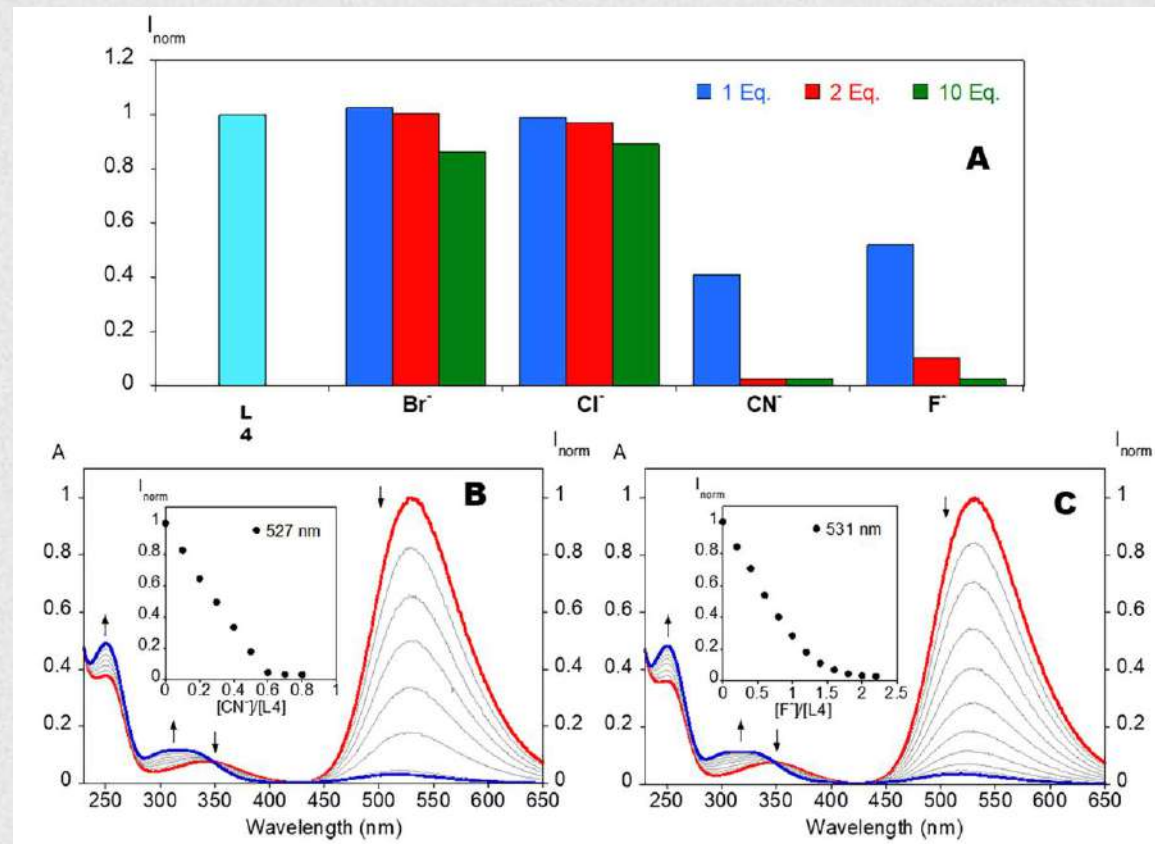
^b PROTEOMASS Scientific Society, 2825-466 Costa da Caparica, Portugal

^c Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev str., bl. 9, 1113 Sofia, Bulgaria

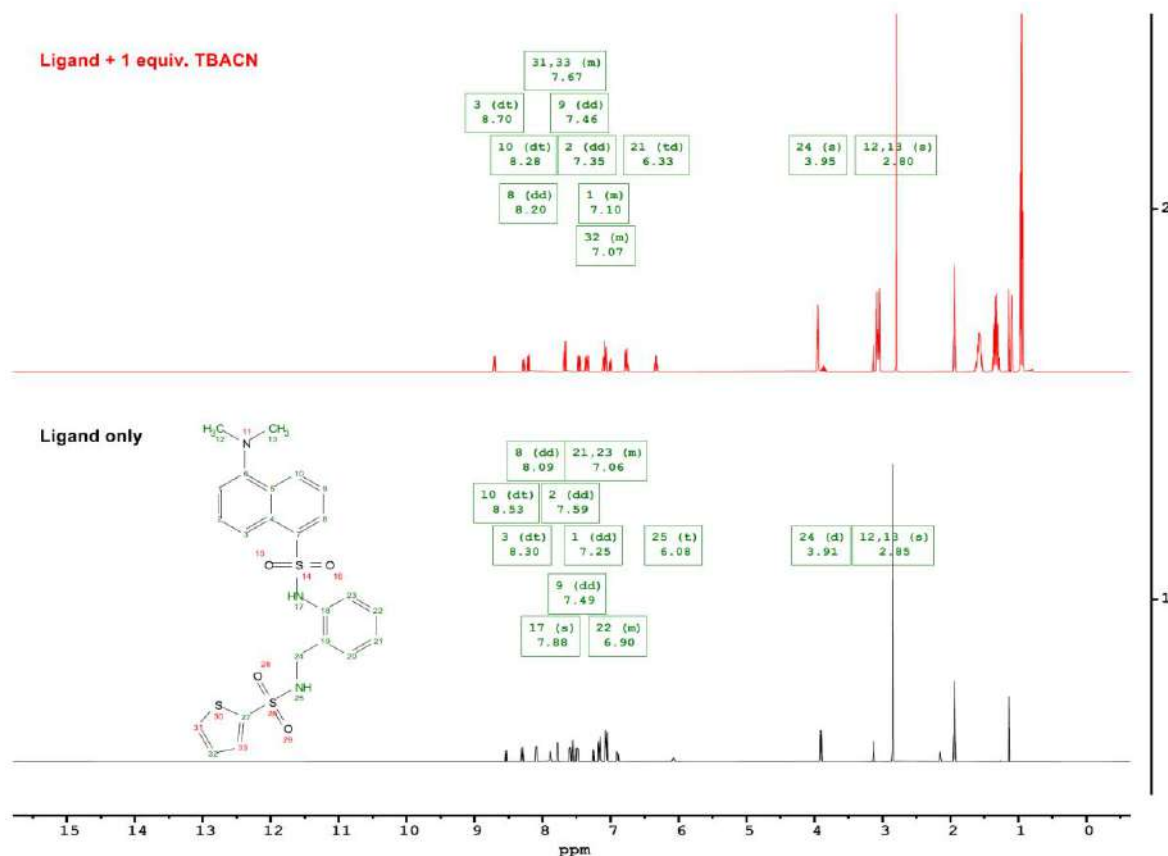
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- Six dansyl-based fluorescent probes (L1–L6) were explored for selective CN^- and F^- detection;
- “Turn-off” fluorescence response to cyanide and fluoride anions was observed;
- NMR titrations revealed a clear deprotonation-driven recognition mechanism;
- These dansyl probes enable rapid, real-time, and non-invasive detection of toxic anions.



TARGETED IDENTIFICATION OF CYANIDE & FLUORIDE IONS



Compounds	Anion (A)	Association constants (LogK _{ass})	L: A	LOD (μM)	LOQ (μM)
L1	F ⁻	3.66 ± 0.01	1:1	80	240
L2	F ⁻	4.49 ± 0.01	1:1	4	8
	CN ⁻	4.79 ± 0.01	1:1	2	4
L3	F ⁻	4.14 ± 0.01	1:1	8	16
	CN ⁻	4.60 ± 0.01	1:1	3	5
L4	F ⁻	5.66 ± 0.01	1:1	4	8
	CN ⁻	6.37 ± 0.01	1:1	2	4
L5	F ⁻	4.04 ± 0.01	1:1	12	16
	CN ⁻	4.91 ± 0.01	1:1	4	8
L6	F ⁻	5.36 ± 0.01	1:1	6	14
	CN ⁻	5.76 ± 0.02	1:1	4	8

DANSYL-DERIVED CHEM SENSORS FOR DISULFIDE: METAL SENSING, & THERMOMETRIC APPLICATIONS

Journal of
Materials Chemistry C



PAPER

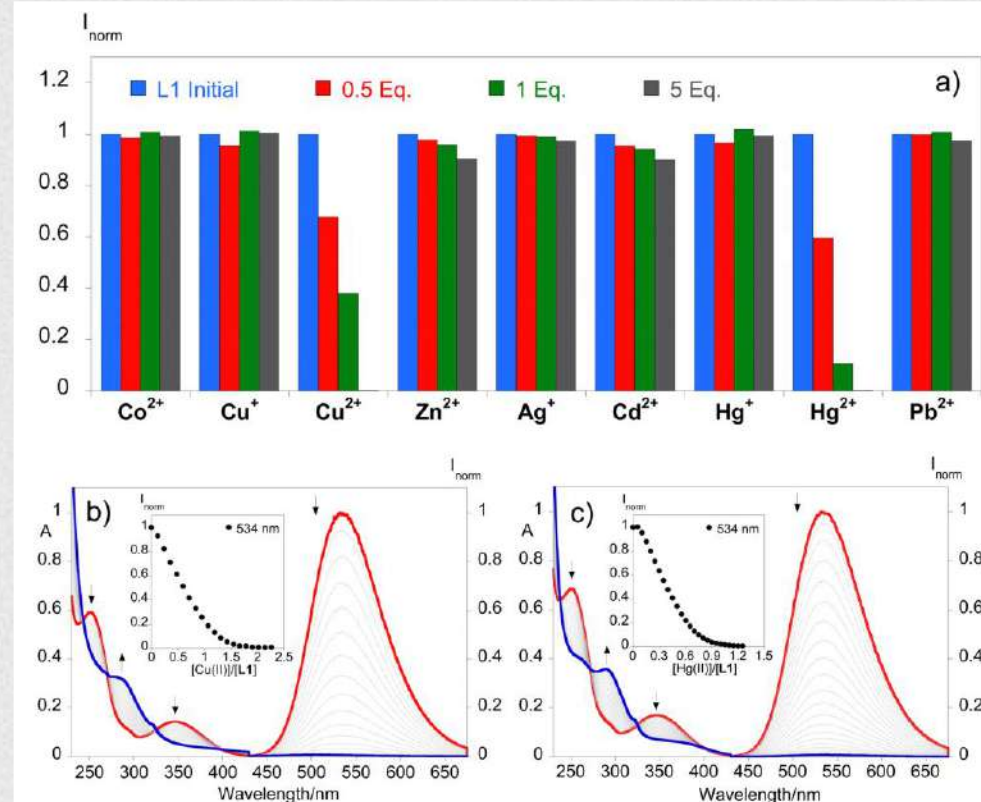
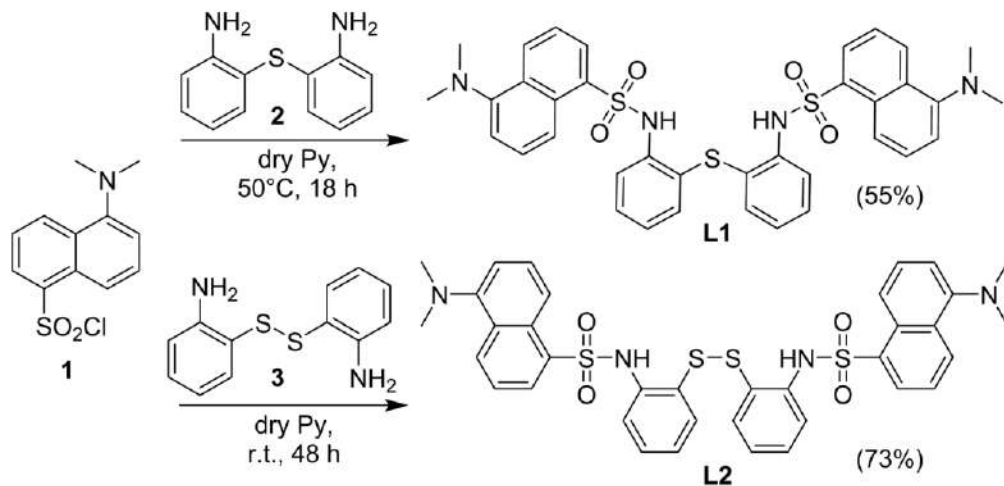
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13, 6708

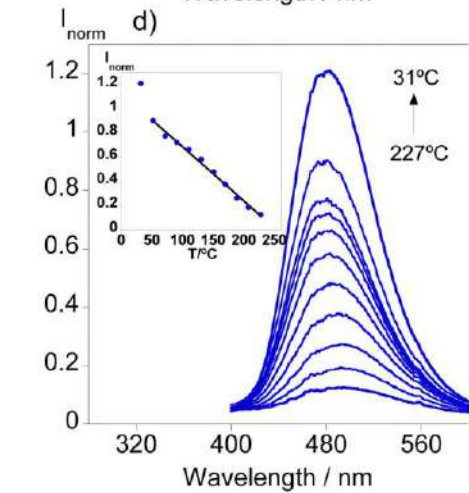
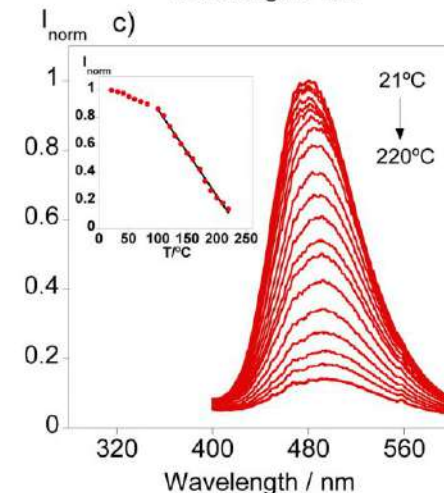
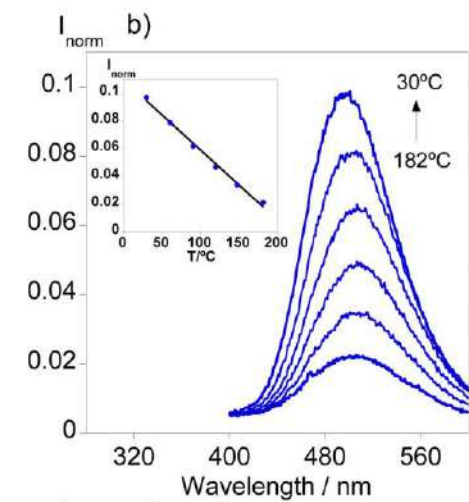
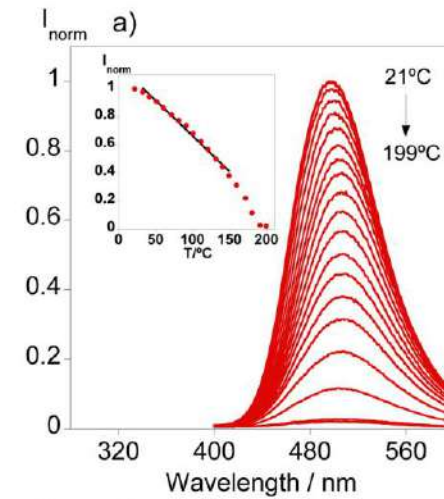
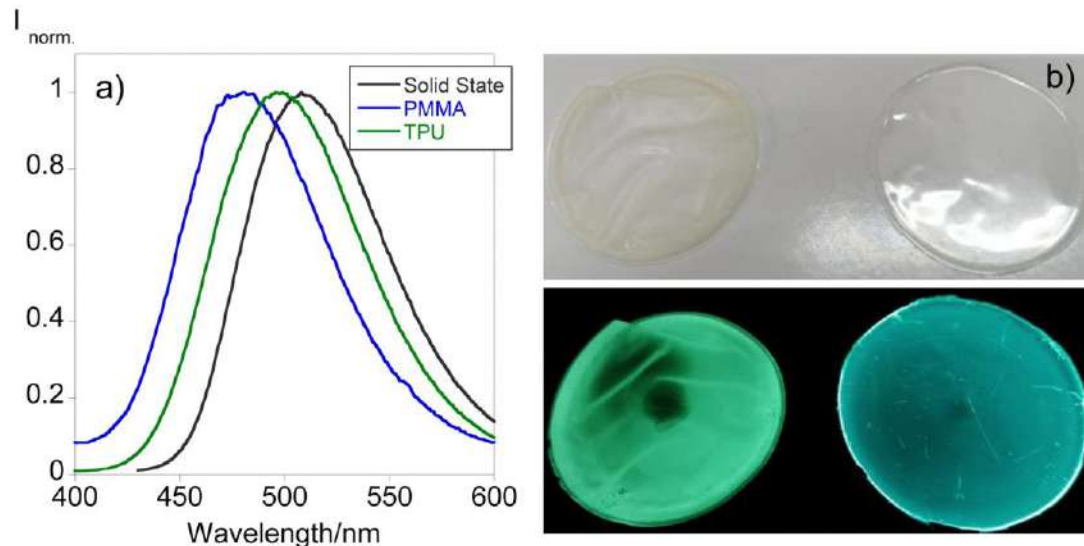
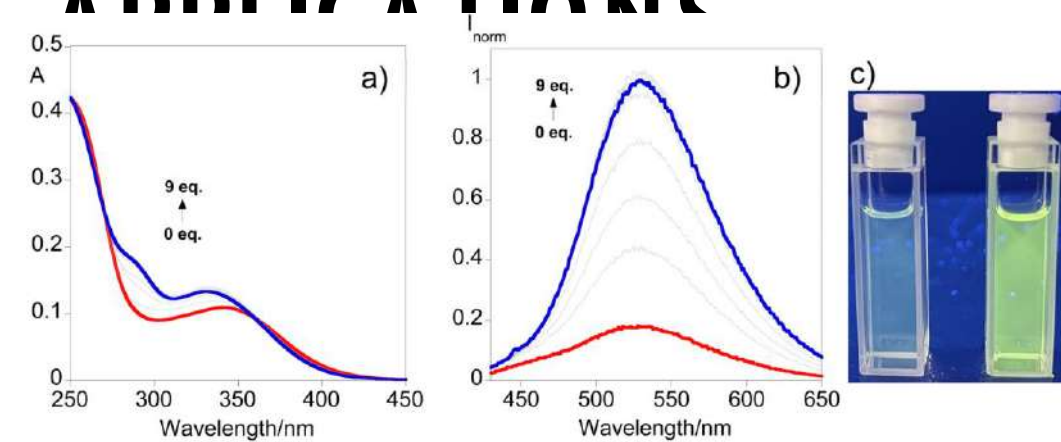
**Design and evaluation of dansyl-derived
chemosensors for disulfide-cleavage-triggered
detection: photophysical, metal sensing,
and thermometric applications†**

Igor Lourenço,^{‡a} Frederico Duarte,^{‡a} Georgi M. Dobrikov,^{bc} Atanas Kurutos,^{*bd}
Ivaylo Slavchev,^b José Luis Capelo-Martínez,^{ae} Hugo M. Santos^{ae} and
Carlos Lodeiro^{c,ae}



Compounds	Metal (M)	Association constants (log K_{ass}), L : M	LOD (μ M)	LOQ (μ M)
L1	Cu ²⁺	5.73 $\pm$ 0.01	4	8
	Hg ²⁺	5.80 $\pm$ 0.02	2	4

DANSYL-DERIVED CHEM OSENSORS FOR DISULFIDE: METAL SENSING, & THERMOMETRIC APPLICATIONS



FLUORESCENT SENSING PROBES FOR METAL IONS & TEMPERATURE-RESPONSIVE MATERIALS

Dyes and Pigments 232 (2025) 112461



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journal homepage: www.elsevier.com/locate/dyepig



Tetra dansylamides substituted cyclen and cyclam macrocycles as fluorescent sensing probes for metal ions and temperature-responsive materials in doped polymers

Inês Pereira-Gomes^{a,1}, Frederico Duarte^{a,1}, Georgi M. Dobrikov^{b,*}, Ivaylo Slavchev^b, Atanas Kurutos^{b,c}, Jose Luis Capelo-Martinez^{a,d}, Hugo M. Santos^{a,d}, Carlos Lodeiro^{a,d,*}

^a BIOSCOPE Research Group, LAQV-REQUIMTE, Chemistry Department, NOVA School of Science and Technology, FCT NOVA, Universidade NOVA de Lisboa, 2829-516, Caparica, Portugal

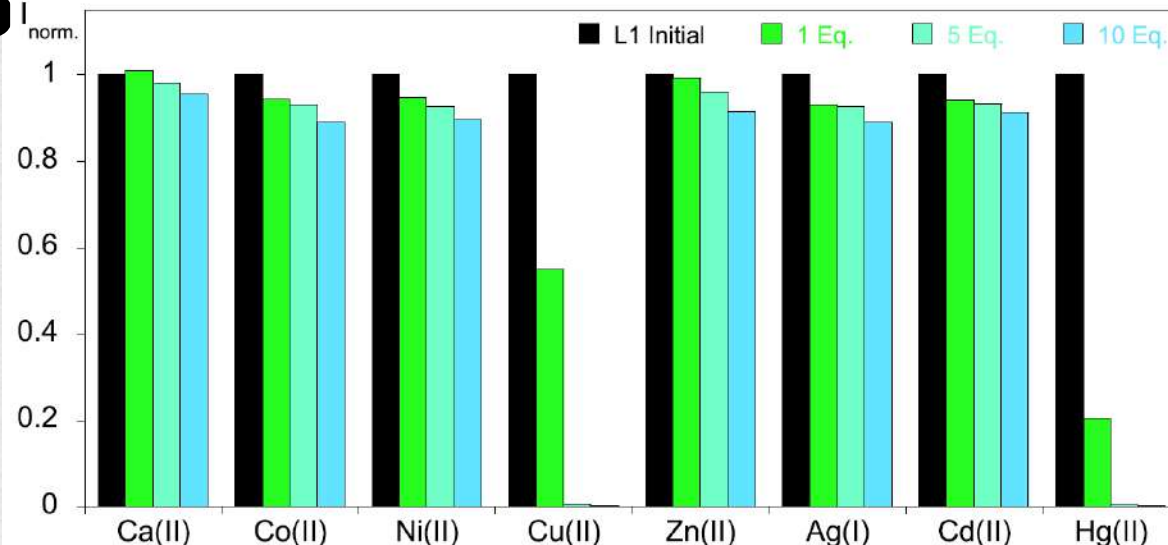
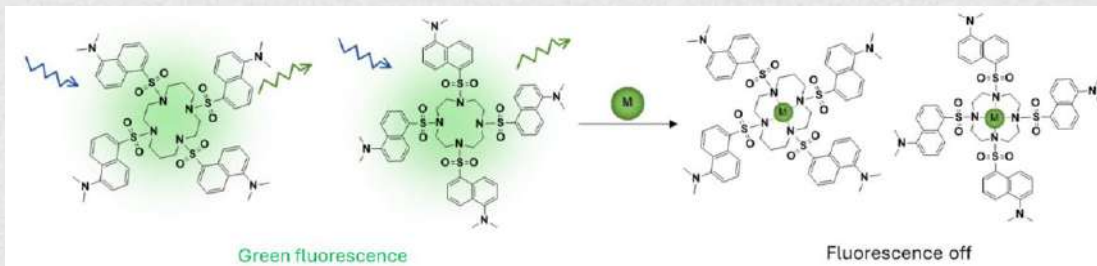
^b Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev str., bl. 9, 1113, Sofia, Bulgaria

^c University of Chemical Technology and Metallurgy, 8 St. Kliment Ohridski Blvd, 1756, Sofia, Bulgaria

^d PROTOMASS Scientific Society, 2825-466, Costa de Caparica, Portugal

■ Tetra-dansyl derivatives incorporating cyclen (L1) and cyclam (L2) macrocycles were synthesized

■ L1 and L2 showed high sensitivity to Cu²⁺ and Hg²⁺, with L2 detecting Hg²⁺ at 2–3 μM.



Compounds	Metal (M)	Association constants (LogK _{ass.}), L:M	LOD (μM)	LOQ (μM)
L1	Cu ²⁺	5.613 ± 0.002	2.9	3.4
	Hg ²⁺	5.104 ± 0.002	3.5	3.8
L2	Cu ²⁺	5.870 ± 0.003	2.8	4.4
	Hg ²⁺	5.047 ± 0.002	2.0	3.0

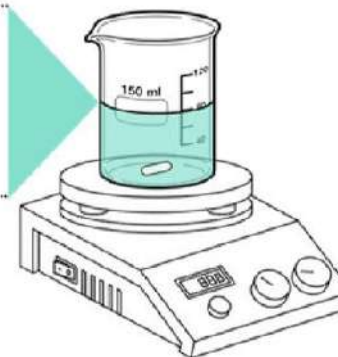
FLUORESCENT SENSING PROBES FOR METAL IONS & TEMPERATURE-RESPONSIVE MATERIALS

100 mg polymer

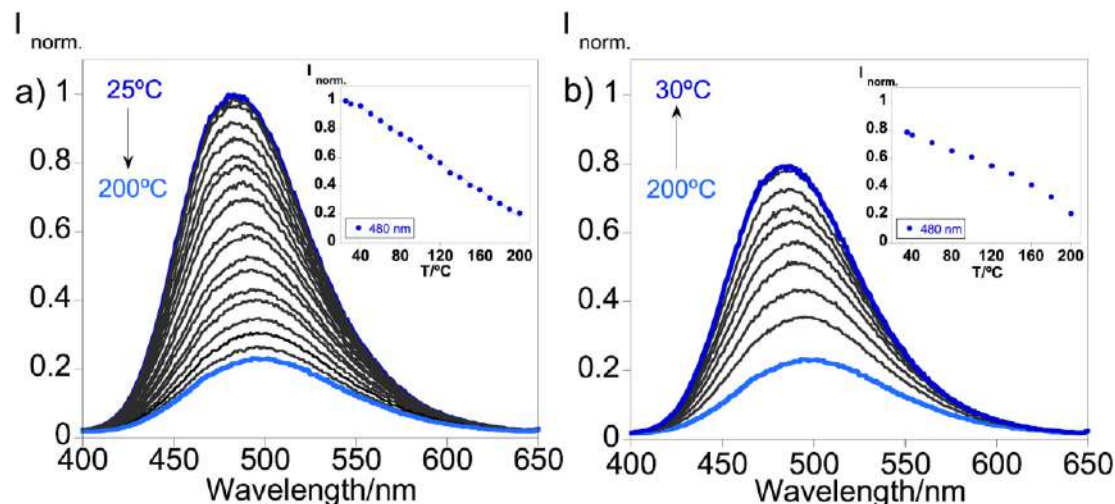
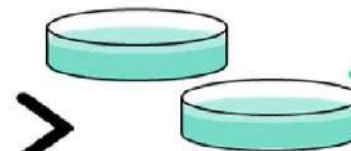
- a) KURARITY L44285;
CHCl₃; Stir (70°C)
b) IROGRAN A 92 P
4637; THF, Stir (r.t.)



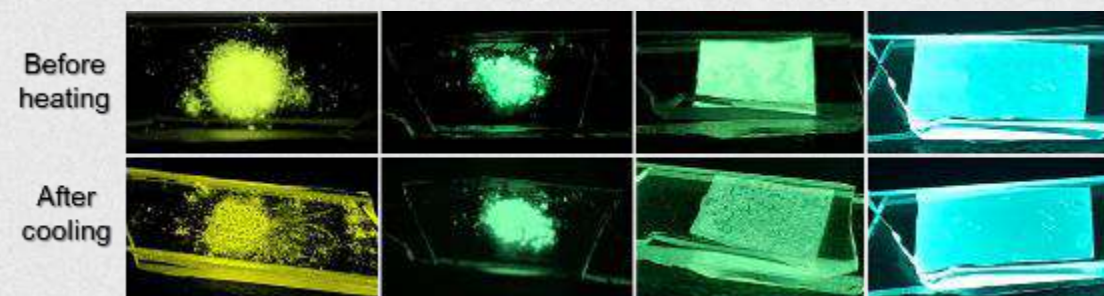
- + 1 mg compound
a) CHCl₃; Stir (70°C)
b) THF, Stir (r.t.)



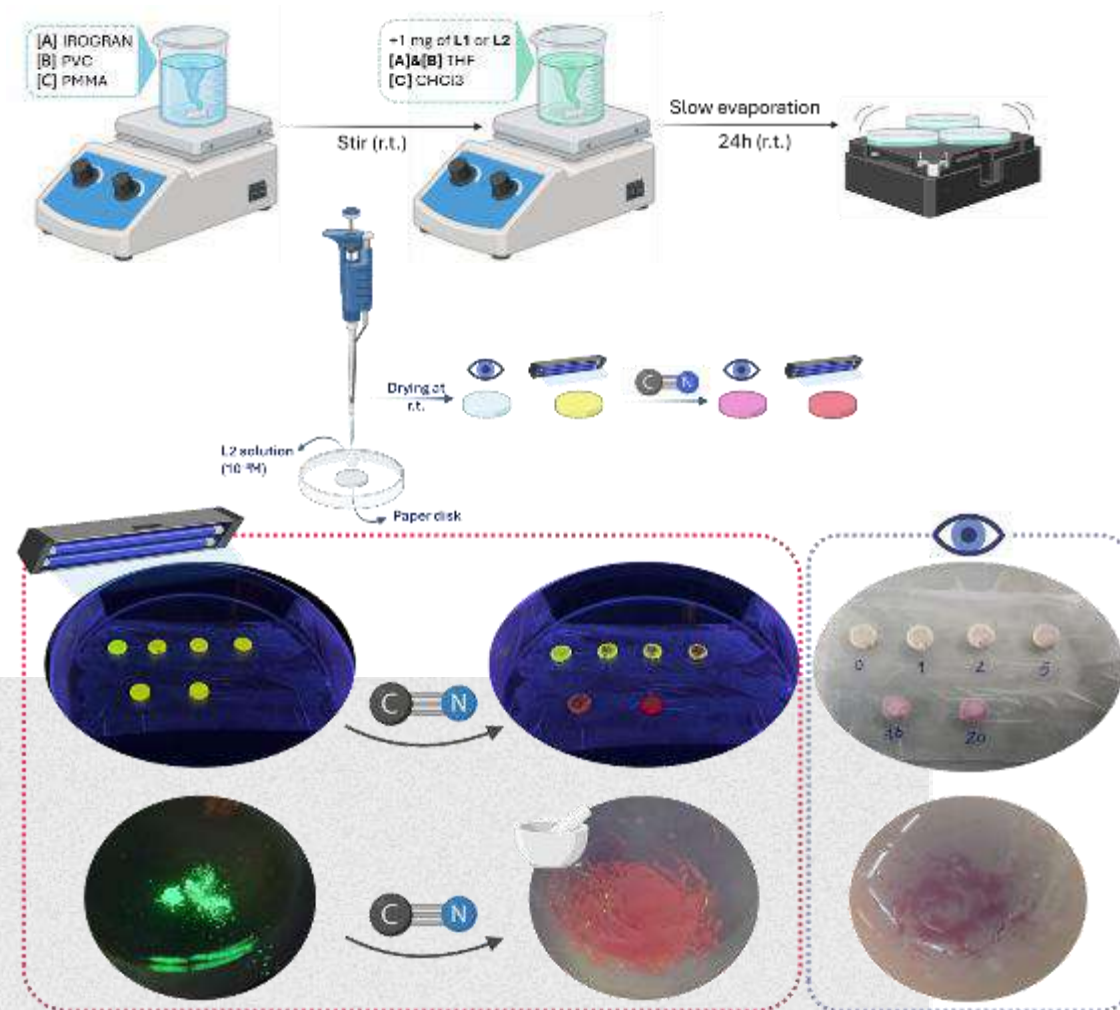
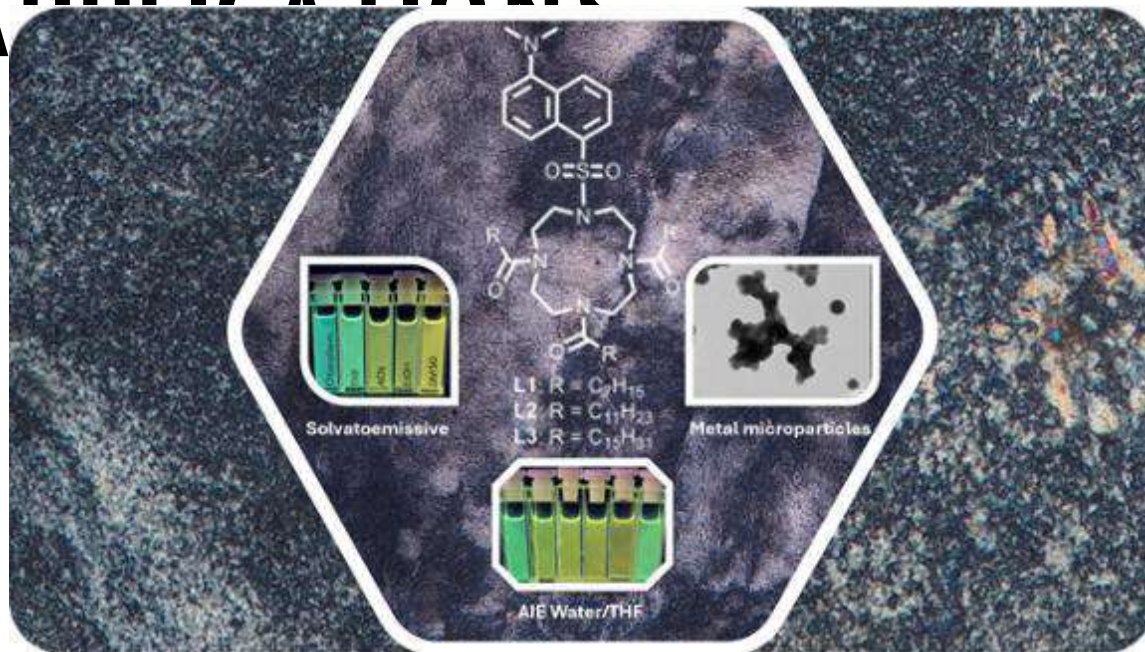
a) & b) Slow
evaporation;
24h (r.t.)



- Aggregation Induced emission and positive solvatochromism;
- Temperature-Responsive Materials studied in Polymeric films.



MULTIFUNCTIONAL CYCLEN FLUOROPHORES FOR METAL ION SENSING, SELF-ASSEMBLY & NANOCOLLOID APPLICATIONS

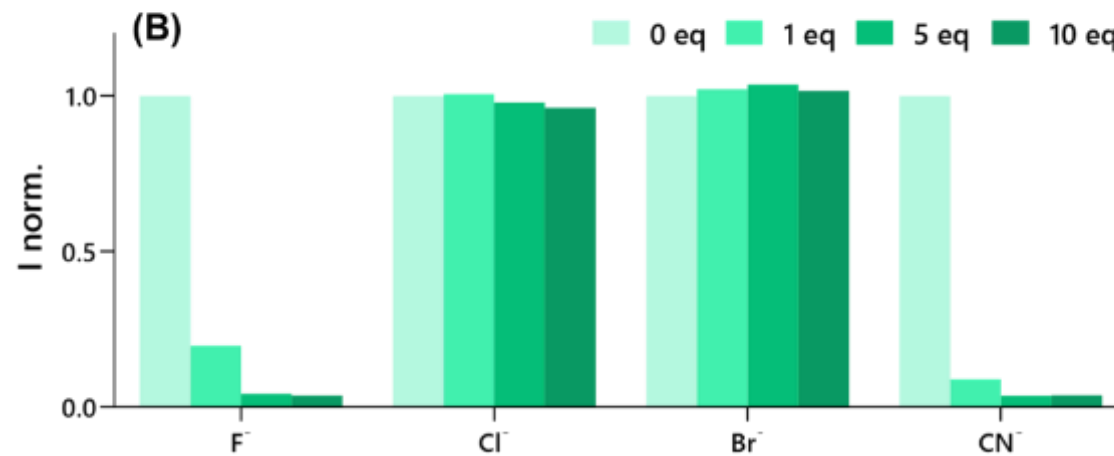
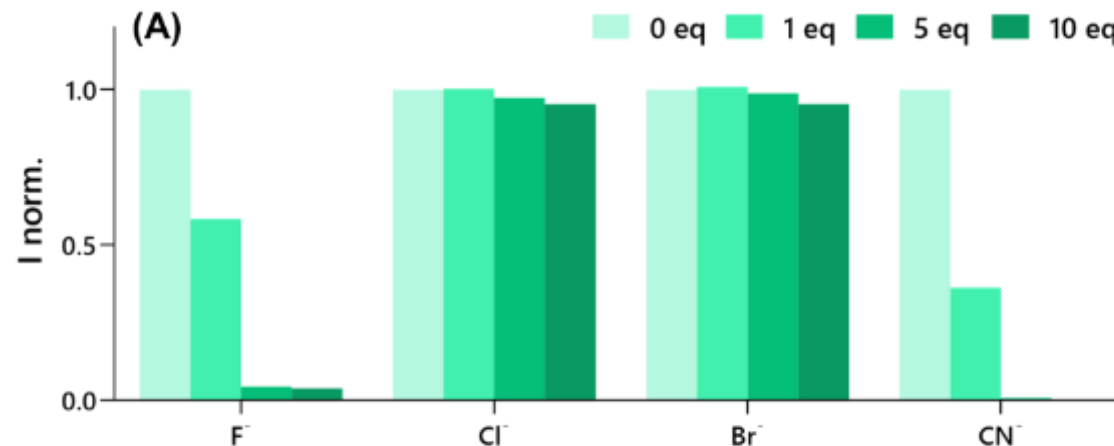
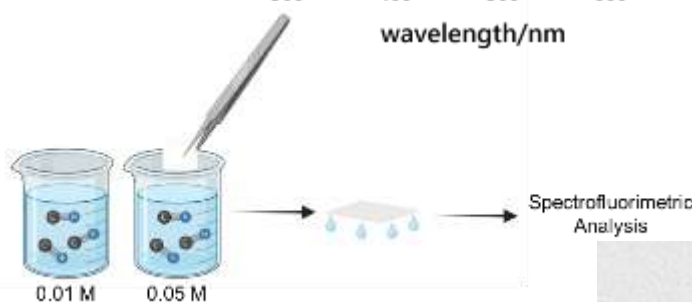
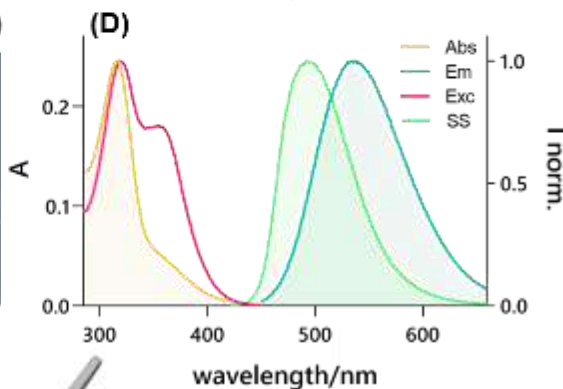
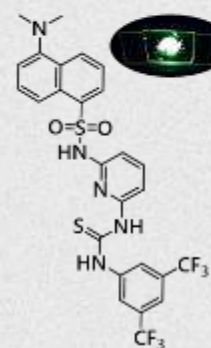
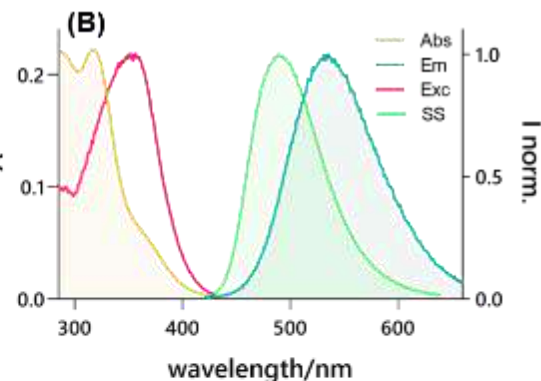
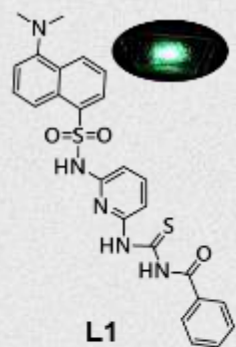


22.9.2025 - submitted

Title: Engineering Multifunctional Cyclen Fluorophores for Metal Ion sensing, Self-Assembly and Nanocolloid Applications

THIOUREA DERIVATIVES FOR CYANIDE & FLUORIDE IONS

11



Development of fluorochromic polymer doped materials as platforms for temperature sensing using three dansyl derivatives bearing a sulfur bridge

Frederico Duarte^a, Georgi Dobrikov^{b,c}, Atanas Kurutos^{b,c}, Jose Luis Capelo-Martínez^{a,d}, Hugo M. Santos^{a,d}, Elisabete Oliveira^{a,d}, Carlos Lodeiro^{a,d}

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Journal of Photochemistry & Photobiology, A: Chemistry 485 (2023) 115033

Fluorescent polymers for environmental monitoring: Targeting pathogens and metal contaminants with naphthalimide derivatives

Joana Galhano^a, Atanas Kurutos^{b,c}, Georgi M. Dobrikov^{b,c}, Maria Paula Duarte^a, Hugo M. Santos^a, Jose Luis Capelo-Martínez^{a,d}, Carlos Lodeiro^{a,d}, Elisabete Oliveira^{a,d}

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Dyes and Pigments 243 (2023) 113088

A dual-responsive Dansyl-Naphthalimide system for Hg(II) CHEF detection and ligand-mediated Cu(II) reduction with catalytic relevance

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Journal of Materials Chemistry C

PAPER



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Design and evaluation of dansyl-derived chemosensors for disulfide-cleavage-triggered detection: photophysical, metal sensing, and thermometric applications†

Igor Lourenço,^a Frederico Duarte,^a Georgi M. Dobrikov,^{b,c} Atanas Kurutos,^{b,c} Ivaylo Slavechev,^a José Luis Capelo-Martínez,^{a,d} Hugo M. Santos^a and Carlos Lodeiro^{a,d}

Enhancing water sensing via aggregation-induced emission (AIE) and solvatochromic studies using two new dansyl derivatives containing a disulfide bond: Pollutant metal ions detection and preparation of water-soluble fluorescent polymeric particles

Frederico Duarte^a, Georgi Dobrikov^{b,c}, Atanas Kurutos^{b,c}, Hugo M. Santos^{a,d}, Javier Fernández-Lodeiro^{a,d}, Jose Luis Capelo-Martínez^{a,d}, Elisabete Oliveira^{a,d}, Carlos Lodeiro^{a,d}

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Microchemical Journal 355 (2023) 113237

Antimicrobial profile and Turn-On sensing of cyanide and water traces using a dual chromophoric Dansyl-Acridine conjugate as multifunctional system

Frederico Duarte^a, Ines Pereira-Gomes^{a,b}, Georgi M. Dobrikov^{b,c}, Joana Galhano^a, Clara S. B. Gomes^a, Atanas Kurutos^{b,c}, Hugo M. Santos^{a,d}, Elisabete Oliveira^{a,d}, Maria Paula Duarte^a, Jose Luis Capelo-Martínez^{a,d}, Carlos Lodeiro^{a,d}

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Dyes and Pigments 252 (2025) 112641

Tetra dansylamides substituted cyclen and cyclam macrocycles as fluorescent sensing probes for metal ions and temperature-responsive materials in doped polymers

Ines Pereira-Gomes^{a,b}, Frederico Duarte^{a,b}, Georgi M. Dobrikov^{b,c}, Ivaylo Slavechev^a, Atanas Kurutos^{b,c}, Jose Luis Capelo-Martínez^{a,d}, Hugo M. Santos^{a,d}, Carlos Lodeiro^{a,d}

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^d BIOCOPAR / NOVA School of Science and Technology, Universidade NOVA de Lisboa, Campus de Caparica, Caparica, 2829-516 Caparica, Portugal

Optical evaluation of dansyl derivatives and their implementation in low-cost and flexible dye-doped PMMA platforms for efficient detection of hazardous chemical vapours

Gonçalo Pedro^a, Frederico Duarte^a, Georgi M. Dobrikov^{b,c}, Atanas Kurutos^{b,c}, Hugo M. Santos^{a,d}, Jose Luis Capelo-Martínez^{a,d}, Elisabete Oliveira^{a,d}, Carlos Lodeiro^{a,d}

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Materials Today Chemistry 39 (2024) 107671

Innovative colorimetric detection of clinical Gram-negative bacteria using low-cost bacteriostatic barbiturate polymers

Joana Galhano^a, Atanas Kurutos^{b,c}, Georgi M. Dobrikov^{b,c}, Maria Paula Duarte^a, Hugo M. Santos^a, Jose Luis Capelo-Martínez^{a,d}, Carlos Lodeiro^{a,d}, Elisabete Oliveira^{a,d}

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Sources, sustainability and directions in the chemical synthesis of δ-aminolevulinic acid

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Inorganic Chemistry Communications 181 (2025) 115290

Research Article

Targeted identification of cyanide and fluoride ions utilizing dansyl-derived fluorescent probes: a deprotonation-driven sensing mechanism

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Dyes Pigm, **2023**, 218, 111428 / **IF = 4.2**

Dyes Pigm, **2024**, 224, 112042 / **IF = 4.2**

Microchem. J., **2024**, 205, 111237 / **IF = 4.9**

Sustain. Chem. Pharm., **2024**, 38, 101491 / **IF = 5.5**

Mater. Today Chem., **2024**, 36, 101951 / **IF = 6.7**

J. Hazard. Mater., **2024**, 480, 136107 / **IF = 11.3**

Dyes Pigm, **2025**, 232, 112461 / **IF = 4.2**

Dyes Pigm, **2025**, 243, 113088 / **IF = 4.2**

J. Mater. Chem. C, **2025**, 13, 6708 / **IF = 5.1**

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