Electronic supplementary information (ESI)

Reporting a new siderophore based Ca^{2+} selective chemosensor that works as staining agent in live organism *Artemia*

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Contents Page No.

Figure S1. ^{13}C NMR of **HL** in absence and in presence of calcium salts S3

Figure S2. Mass spectra of **HL** showing 1:1 binding with Ca^{2+} S4

Figure S3. Fluorescence intensities of **HL** (10 μM) and Ca^{2+} (10 μM) mixture in presence of 1 mM Mg^{2+}. S5

Figure S4. Effect of Ca^{2+} binding to **HL** in presence of $EDTA^{2-}$ and L-Cysteine S6

Figure S5. Effect of Cu^{2+} binding to **HL** in presence of $EDTA^{2-}$ and L-Cysteine S7

Table S1. Toxicity results of **HL** studied with *Artemia* S8

Table S2. Comparison of optical properties of **HL** with the organic and water-organic mixture soluble Ca^{2+}-selective chemosensors.

Figure S1. ^{13}C NMR of **HL** in the absence and in the presence of calcium salts.

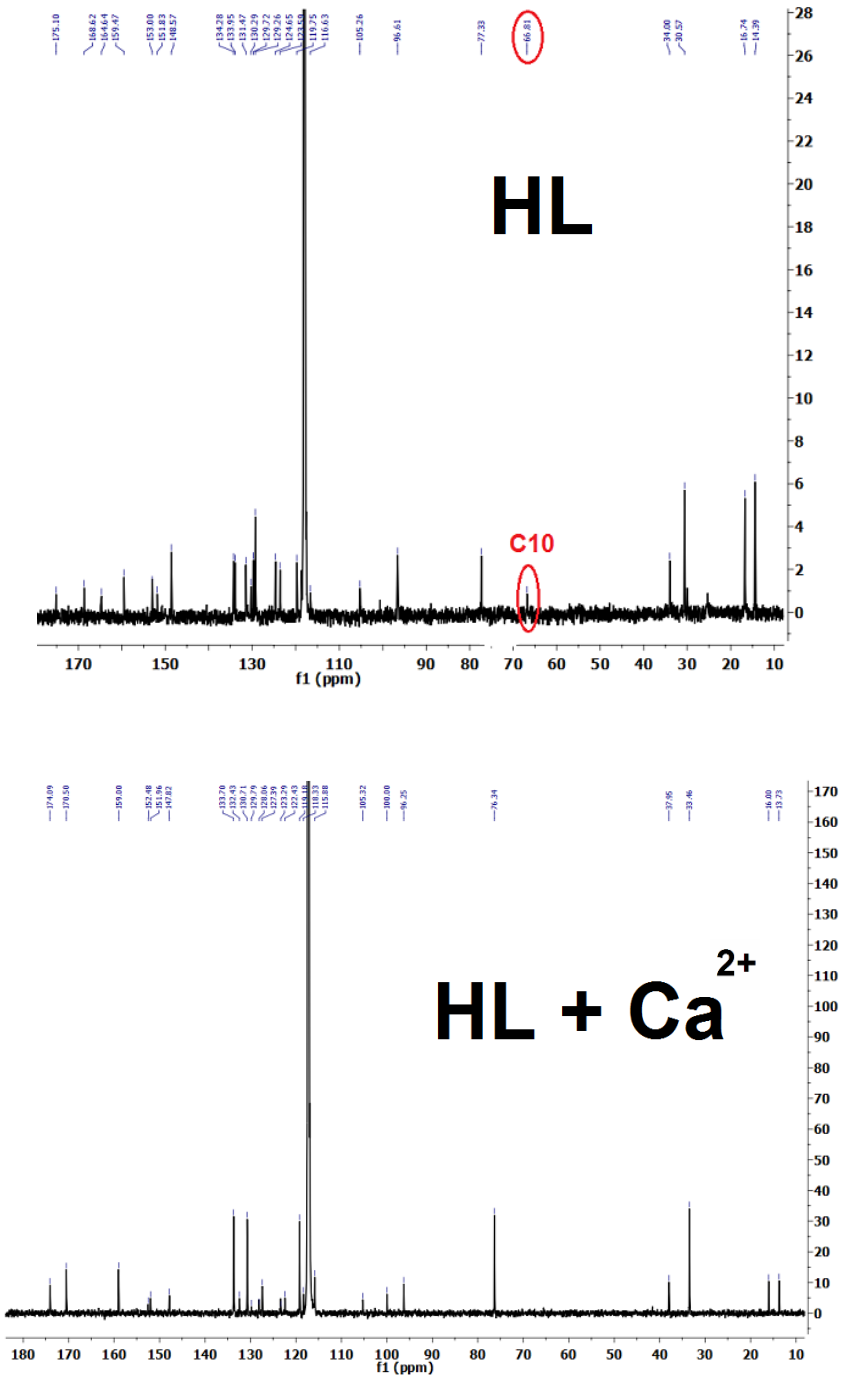
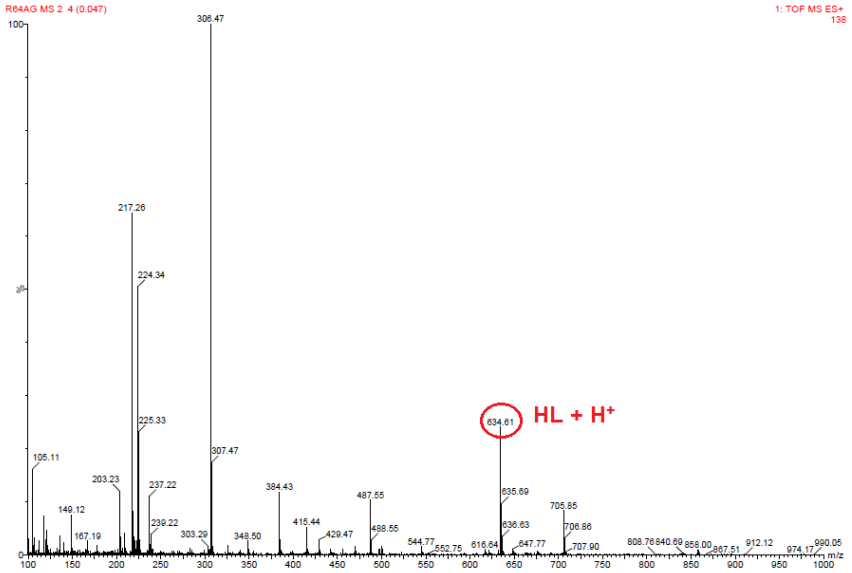


Figure S2. Mass spectrum of **HL**



Mass spectrum of **CaL** indicating 1:1 binding of **HL** with Ca^{2+}

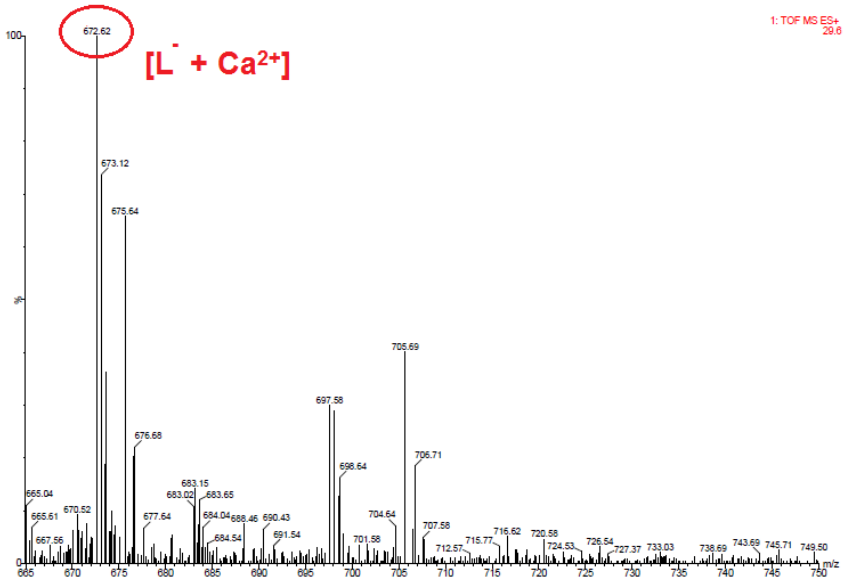


Figure S3. Fluorescence intensity of **HL** (10 μM) and Ca^{2+} (10 μM) mixture in the presence of 1 mM Mg^{2+}.

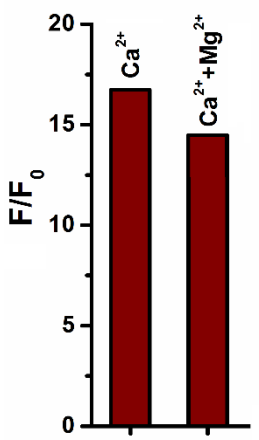


Figure S4. Effect of Ca^{2+} (10 μM) binding to **HL** (10 μM) in presence of $EDTA^{2-}$ (5-equiv) and L-cysteine (5-equiv), separately.

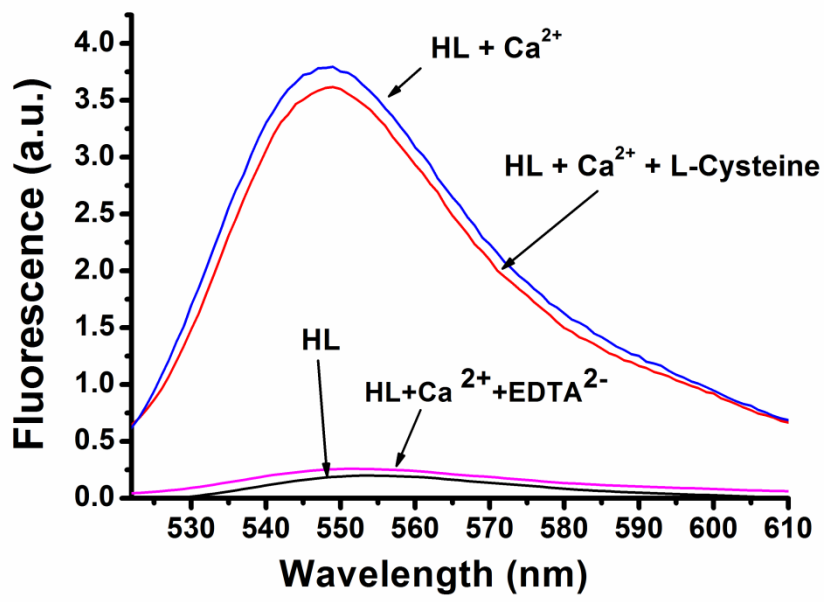


Figure S5. Effect of Cu^{2+} (10 μM) binding to **HL** (10 μM) in presence of $EDTA^{2-}$ (5-equiv) and L-cysteine (5-equiv), separately.

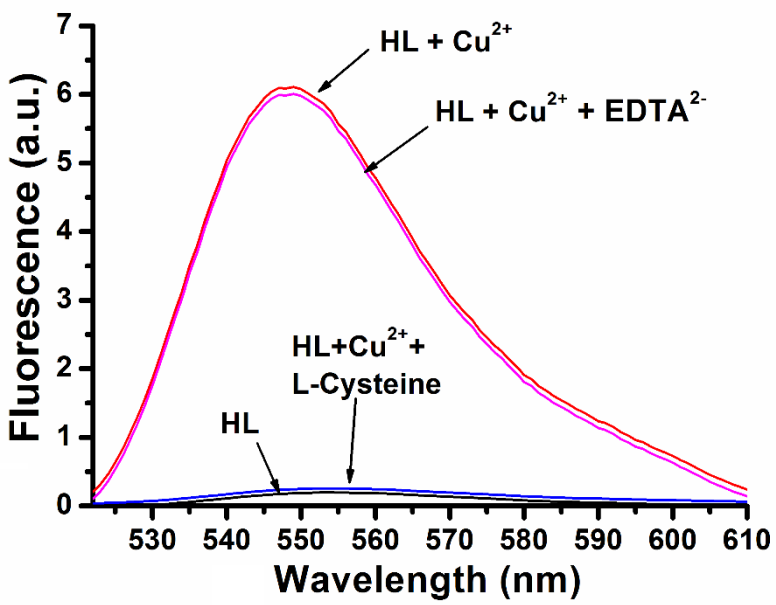


Table S1. Toxicity results of **HL** studied with *Artemia*

No. of *Artemia*	**Control**	**Sensor, HL (20 µM)**	**Sensor, HL (60 µM)**
50	50	50	48
50	50	50	48
50	50	50	48

Table S2. Comparison of optical properties of **HL** with the organic and water-organic mixture soluble Ca^{2+}-selective chemosensors.

Receptor	Kd (μM)	LOD	Φ_f (free)	Φ_f (bound)	Φ_f Enhancement ratio	Interference	Solvent system	Bio-imaging system	Excitation Region (nm)	Ref
9-AA-2	0.275	NA	0.00030	0.0039	13	NA	CH_3CN	NA	362	4*a*
9-AA-3	0.176	NA	0.00026	0.0042	16	NA	CH_3CN	NA	362	4*a*
9-AA-4	0.152	NA	0.00033	0.014	42	NA	CH_3CN	NA	362	4*a*
Squaraine-bichromophoric podands 3a		NA	0.008	NA		NA	CH_3CN	NA	570	4*c*
Squaraine-bichromophoric podands 3b			0.014			NA	CH_3CN	NA	570	4*c*
Squaraine-bichromophoric podands 3c			0.023			NA	CH_3CN	NA	570	4*c*
Squaraine-bichromophoric podands 4a			0.06			NA	CH_3CN	NA	570	4*c*
Squaraine-Foldamer-1b	0.23	NA	0.032	0.008	0.25	NA	CH_3CN	NA	580	4*d*
BODIPY-calixarene	0.019	NA	NA	NA		NA	CH_3CN	NA	485	4*h*
DMDAP	0.1	NA	NA	NA	NA	NA	CH_3CN	NA	247	4*e*
Chemo sensor 1	0.176	NA	NA	NA	NA	NA	CH_3CN	NA	438	4*f*
Chemo sensor 2	0.161	NA	NA	NA	NA	NA	CH_3CN	NA	438	4*f*
acridinedione-bichromophoric podand-1b	0.261	NA	0.122	NA	NA	NA	CH_3CN	NA	381	4*i*
acridinedione-bichromophoric podand-1c	0.207	NA	0.123	NA	NA	NA	CH_3CN	NA	381	4*i*

Notes and references

4 (a) T. Morozumi, T. Anada and H. Nakamura, *J. Phys. Chem. B,* 2001, **105***,* 2923-2931; (c) E. Arunkumar, P. Chithra and A. Ajayaghosh, *J. Am. Chem. Soc*., 2004, **126**, 6590-6598; (d) E. Arunkumar, A. Ajayaghosh and J. Daub, *J. Am. Chem. Soc*., 2005, **127**, 3156-3164; (e) C. -F. Lin, Y. -H. Liu, C. -C. Lai, S. -M. Peng and S. -H. Chiu, *Chem. Eur. J*., 2006, **12**, 4594-4599; (f) J. Kim, T. Morozumi and H. Nakamura, *Org. Lett*., 2007, **9**, 4419-4422; (g) M. Suresh and A. Das, *Tetrahedron Lett.,* 2009, **50**, 5808-5812; (h) H. J. Kim and J. S. Kim, *Tetrahedron Letters,* 2006, **47**, 7051-7055; (i) P. Ashokkumar, V. T. Ramakrishnan and P. Ramamurthy, *Eur. J. Org. Chem.,* 2009, 5941-5947.