

Publications – João Costa Pessoa - 2013

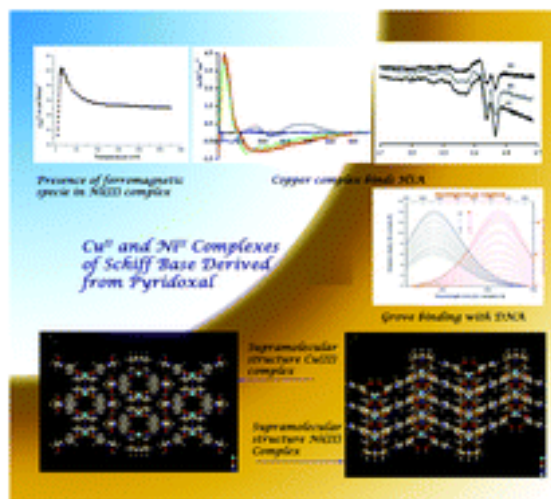
T. Mukherjee, J. Costa Pessoa, A. Kumar, A. R. Sarkar, *Synthesis, Structure, Magnetic Properties and Biological Activity of Supramolecular Copper(II) and Nickel(II) Complexes with a Schiff Base Ligand Derived from Vitamin B₆*

Dalton Trans., 2013, 42, 2594-2607

<http://pubs.rsc.org/en/content/articlepdf/2013/dt/c2dt31575k>

DOI: 10.1039/c2dt31575k

Copper and nickel complexes *with a Schiff Base Ligand Derived from Vitamin B₆*, supramolecular structure, ferromagnetic behavior of nickel dimeric species, DNA and HSA binding studies.

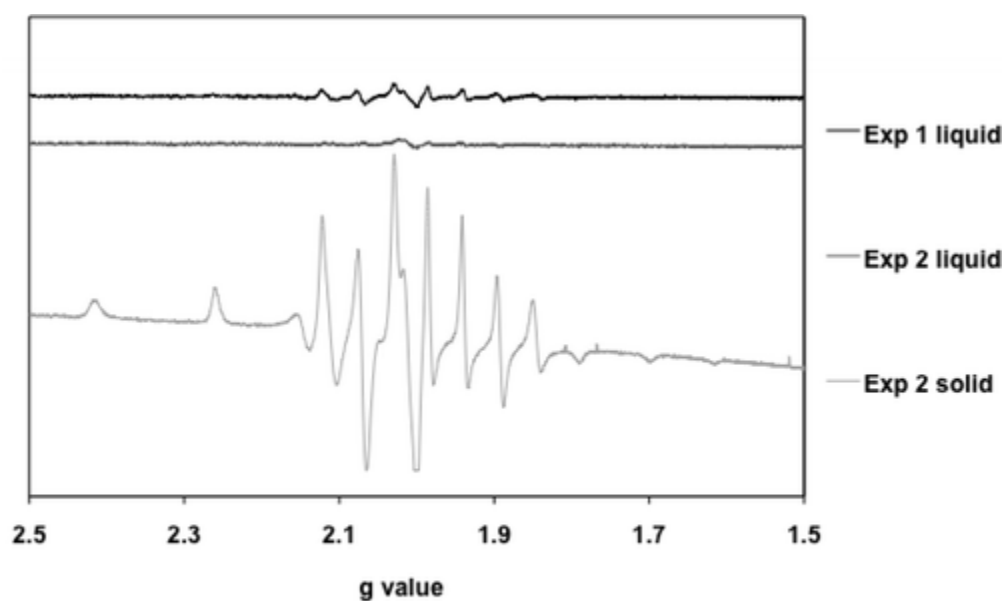


J. García, J. C. González, M. I. Frascaroli, S. García, P. Blanes, I. Correia, J. Costa Pessoa, L. F. Sala, *Spectroscopic studies of vanadium biosorption on different types of carbohydrate biomass*

Can. J. Chem., 2013, 91(3), 186-195

http://www.nrcresearchpress.com/doi/abs/10.1139/cjc-2012-0208#.U38m_tJdUqU

DOI: 10.1139/cjc-2012-0208



V(V) reduction takes place at the “surface” of the biomass

Biomass from waste of Orange peel (OP), grapefruit (GF), citrus, soya bean (SB) from soya and grainless stalk of corn (GSC) were used to purify water contaminated with vanadium compounds.

J. Benítez, A. Cavalcanti de Queiroz, I. Correia, M. Amaral Alves, M. S. Alexandre-Moreira, E.J. Barreiro, L. Moreira Lima, J. Varela, M. González, H. Cerecetto, V. Moreno, J. Costa Pessoa, D. Gambino, *New oxovanadium(IV) N-acylhydrazone complexes: promising antileishmanial and antitrypanosomal agents*

Eur. J. Med. Chem., 2013, 62, 20-27

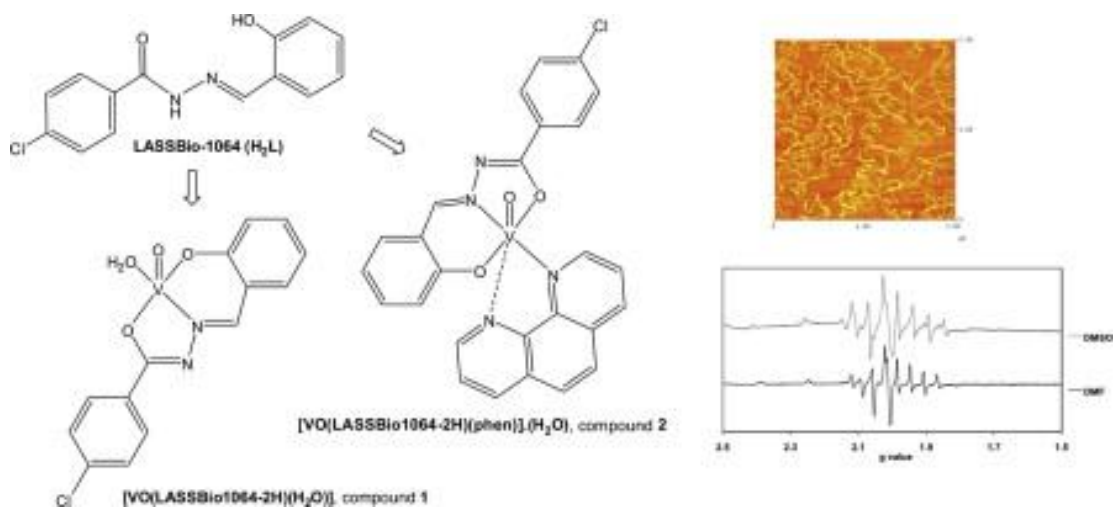
http://ac.els-cdn.com/S0223523412007581/1-s2.0-S0223523412007581-main.pdf?_tid=1e96a788-e27b-11e3-9c6f-00000aab0f01&acdnat=1400850597_63032ee76fbf0e7fa11c8feefc04a3e1

DOI: 10.1016/j.ejmech.2012.12.036

New oxovanadium(IV) N-acylhydrazone complexes show antileishmanial and antitrypanosomal activities. The compounds show IC₅₀ values against *Trypanosoma cruzi* of the same order than Nifurtimox.

The complex including phen as co-ligand shows activity on *Leishmania major* promastigotes. The compounds also show low toxicity on mammalian cells (IC₅₀ > 100 μM).

The complex including phen as co-ligand interacts with DNA, probably through an intercalative mode.



S. Mehtab, G. Gonçalves, S. Roy, A. I. Tomaz, T. Santos-Silva, M.F.A. Santos, M.J. Romão, T. Jakusch, T. Kiss, J. Costa Pessoa, *Interaction of vanadium(IV) with human serum apo-transferrin*

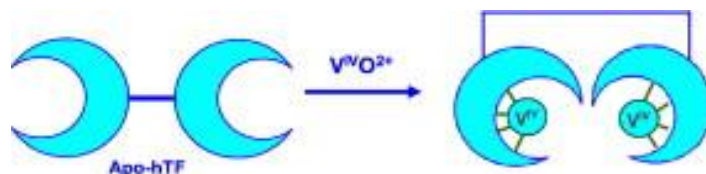
J. Inorg. Biochem. 2013, 121, 187-195

http://ac.els-cdn.com/S0162013413000147/1-s2.0-S0162013413000147-main.pdf?_tid=3202e4d0-e27b-11e3-864e-00000aab0f27&acdnat=1400850630_c236a0054e020c9d3f29ee6d9ee71782

DOI: 10.1016/j.jinorgbio.2012.12.020

$V^{IV}O$ and $V^{IV}O$ -complexes bind transferrin at amino acid residues of the Fe-binding site.

It is shown that in the $(V^{IV}O)_2$ hTF species formed, the hTF is present at least partly with hTF in the closed transferrin conformation, similarly to $(Fe^{III})_2$ hTF. Thus it is probable that $(V^{IV}O)_2$ hTF species may be recognized by hTF cell receptors, and $V^{IV}O$ up-taken by receptor mediated endocytosis.



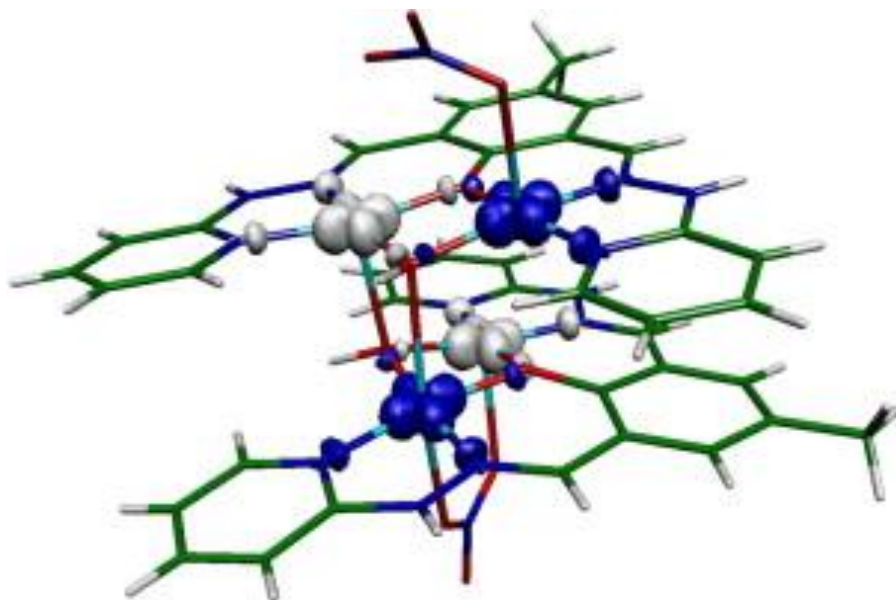
S. Roy, R.J. Butcher, M.S. El Fallah, J. Tercero, J. Costa Pessoa, *An unusual half-open cubane like tetranuclear copper(II) complex supported by both μ -alkoxo and μ_3 -hydroxo bridges: Structure, magnetic properties, EPR and DFT studies*

Polyhedron, 2013, 53, 269–277

http://ac.els-cdn.com/S0277538713000776/1-s2.0-S0277538713000776-main.pdf?_tid=516b3cfa-e27b-11e3-9e15-00000aab0f02&acdnat=1400850682_46ee5a264bba247ce061b7403f67836e

DOI: 10.1016/j.poly.2013.01.044

The polydentate compound H-PHMP reacts with Cu^{2+} to yield a tetranuclear Cu-complex with a $[\text{Cu}_4(\mu\text{-O})_2(\mu_3\text{-OH})_2]$ half-open cubane core. A variable temperature magnetic study indicates the existence of antiferromagnetic interactions ($J_1 = -304.0 \text{ cm}^{-1}$ and $J_2 = -127.3 \text{ cm}^{-1}$), this being corroborated by DFT calculations.



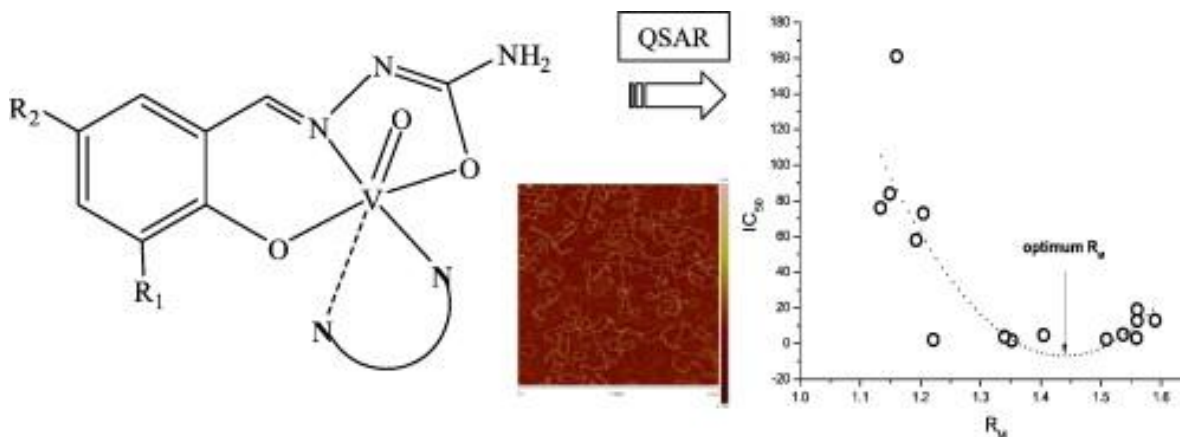
M. Fernández, L. Becco, I. Correia, J. Benítez, O. E. Piro, G.A. Echeverria, A. Medeiros, M. Comini, M. L. Lavaggi, M. González, H. Cerecetto, V. Moreno, J. Costa Pessoa, B. Garat, D. Gambino, *Oxidovanadium(IV) and dioxidovanadium(V) complexes of tridentate salicylaldehyde semicarbazones: searching for prospective antitrypanosomal agents*

J. Inorg. Biochem. 2013, 127, 150-170

http://ac.els-cdn.com/S0162013413000500/1-s2.0-S0162013413000500-main.pdf?_tid=61a03292-e27b-11e3-b0d4-00000aab0f02&acdnat=1400850709_fa81ef9aca95167166bd75055125691d

DOI: 1016/j.jinorgbio.2013.02.010

New $[V^V O_2(L-2H)]$ and $[V^{IV} O(L-2H)(NN)]$ complexes with salicylaldehyde semicarbazones (L) and polypyridyl ligands (NN) were synthesized and evaluated on trypanosomatid parasites. A QSAR study was carried out.

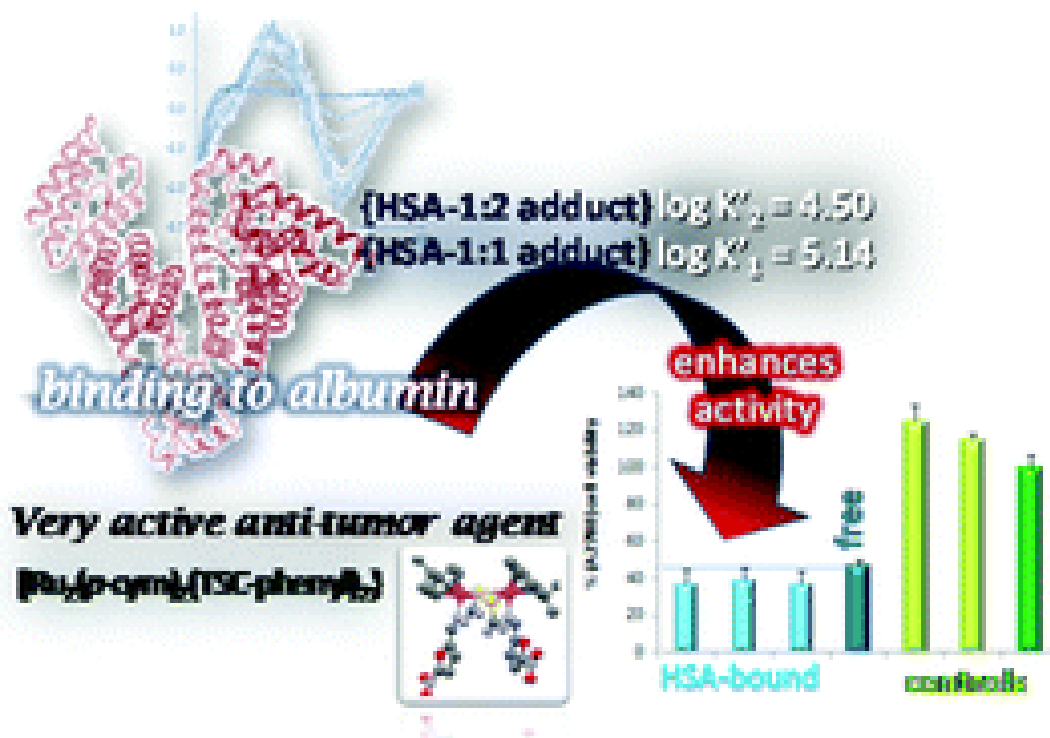


B. Demoro, R.F.M. Almeida, F. Marques, C.P. Matos, L. Otero, J. Costa Pessoa, I. Santos, A. Rodríguez, V. Moreno, J. Lorenzo, D. Gambino, A.I. Tomaz, *Screening organometallic binuclear thiosemicarbazone ruthenium complexes as potential anti-tumour agents: cytotoxic activity and human serum albumin binding mechanism*

Dalton Trans., 2013, 42, 7131-7146

<http://pubs.rsc.org/en/content/articlepdf/2013/dt/c3dt00028a>

DOI: 10.1039/c3dt00028a

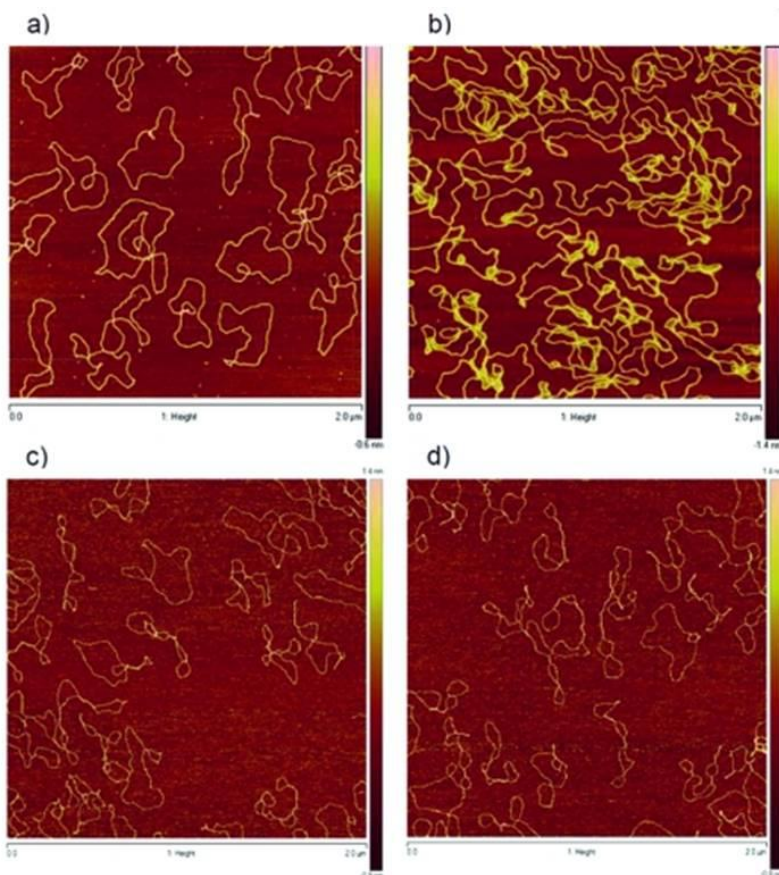


J. Benítez, I. Correia, L. Becco, M. Fernández, B. Garat, H. Gallardo, G. Conte, M.L. Kuznetsov, A. Neves, V. Moreno, J. Costa Pessoa, D. Gambino, *Searching for vanadium-based prospective agents against Trypanosoma cruzi: oxidovanadium(IV) compounds with phenanthroline derivatives as ligands*

Z. Anorg. Allg. Chem., 2013, 639, 1417-1425

<http://onlinelibrary.wiley.com/doi/10.1002/zaac.201300057/pdf>

DOI: 10.1002/zaac.201300057



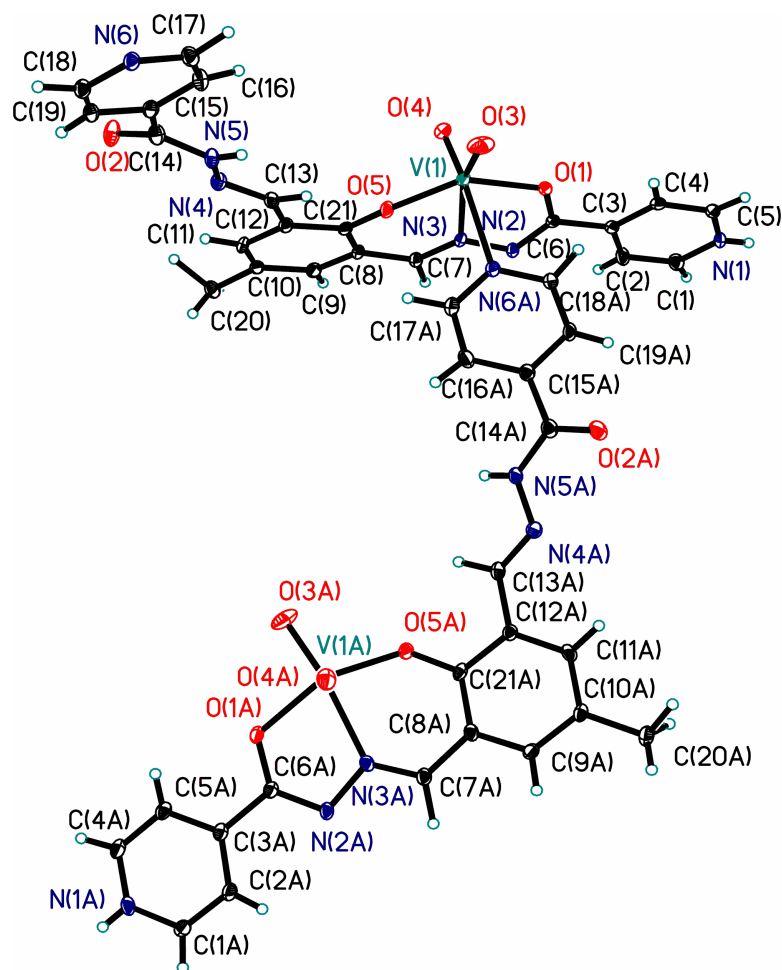
AFM of samples of a $\text{VI}^{\text{V}}\text{O}$ -complex and plamid DNA

M. R. Maurya, C. Haldar, A. Kumar, M.L. Kuznetsov, F. Avecilla, J. Costa Pessoa, *Effect of coordination sites on vanadium complexes having $[VO]^{2+}$, $[VO]^{3+}$ and $[VO_2]^+$ cores with hydrazones of 2,6-diformyl-4-methylphenol: Synthesis, characterization, reactivity, and catalytic potential*

Dalton Trans., 2013, 42, 11941–11962

<http://pubs.rsc.org/en/content/articlepdf/2013/dt/c3dt50469g>

DOI: 10.1039/C3DT50469G

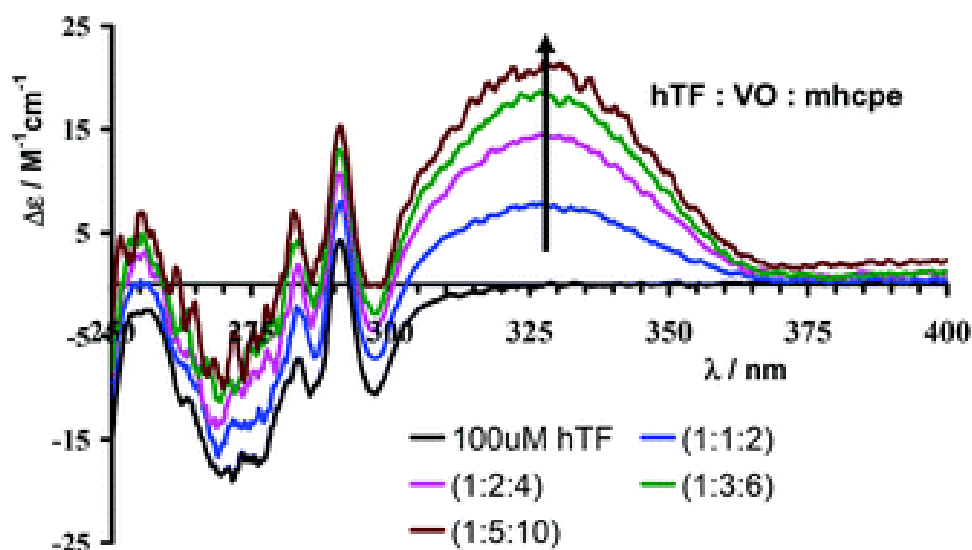


G. Gonçalves, M.M.C.A. Castro, F. AVECILLA, T. Kiss, T. Jakusch, I. Tomaz, I. Correia, L.F. Veiros, L. Palacio, M. Maestro, M.H.V. Garcia, J. Costa Pessoa, *Characterization of Vanadium (IV) complexes of a heterocyclic 5-hydroxy-4-pyrimidinone and study of their interaction with human serum apo-transferrin and albumin*

Dalton Trans., 2013, 42, 11841–11861

<http://pubs.rsc.org/en/content/articlepdf/2013/dt/c3dt50553g>

DOI: 10.1039/C3DT50553G

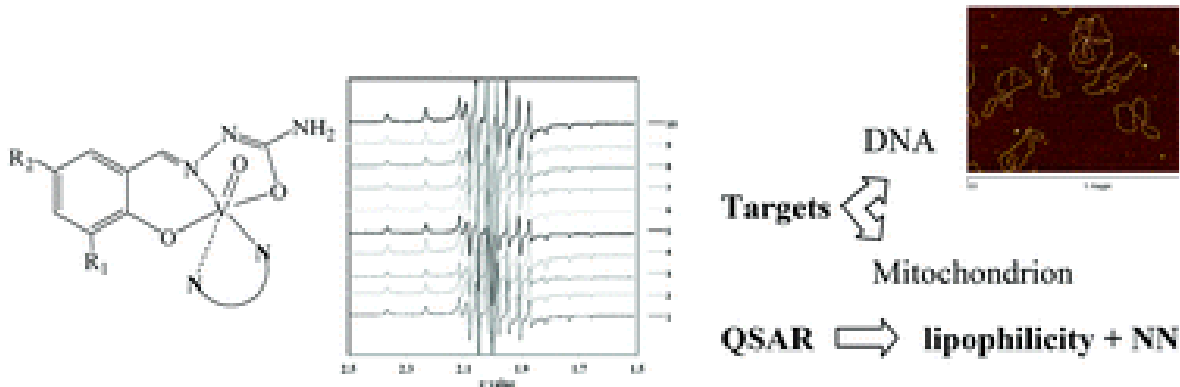


M. Fernández, J. Varela, I. Correia, E. Birriel, J. Castiglioni, V. Moreno, J. Costa Pessoa, H. Cerecetto, M. González, D. Gambino, *A new series of heteroleptic oxidovanadium(IV) compounds with phenanthroline-derived co-ligands: selective Trypanosoma cruzi growth inhibitors*

Dalton Trans., 2013, 42, 11900–11911.

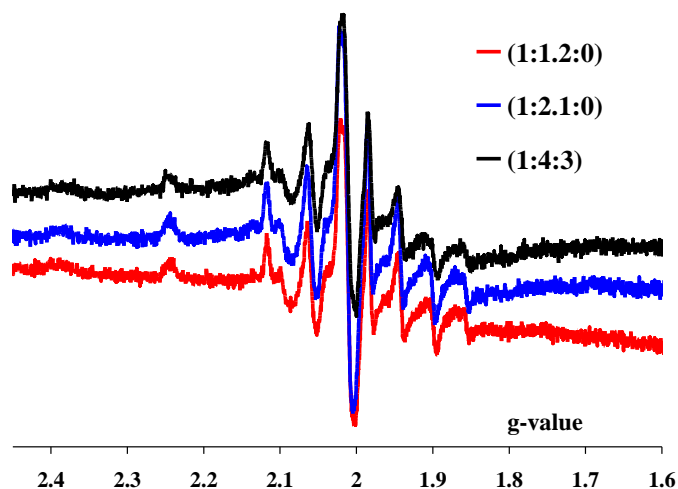
<http://pubs.rsc.org/en/content/articlepdf/2013/dt/c3dt50512j>

DOI: 10.1039/C3DT50512J

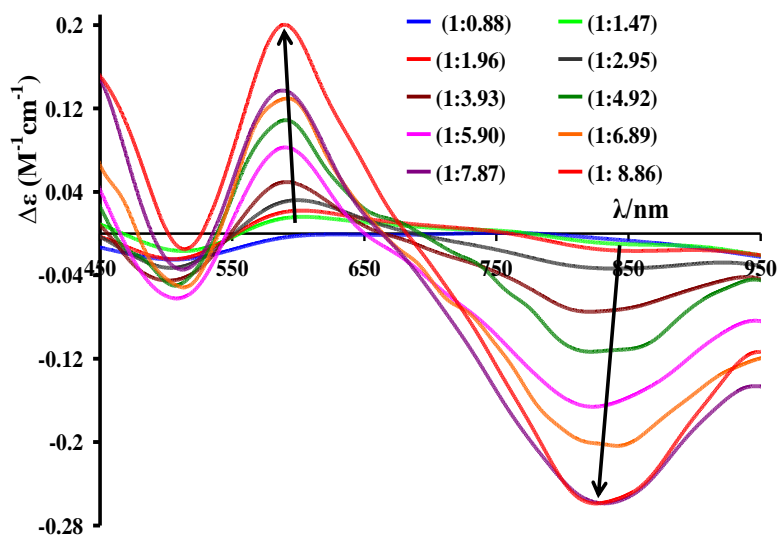


E. Cobbina, S. Mehtab, I. Correia, G. Gonçalves, I. Tomaz, I. Cavaco, T. Jakusch, E. Enyedi, T. Kiss, J. Costa Pessoa, *Binding of Oxovanadium(IV) Complexes with Blood Serum Albumins*
J. Mex. Chem. Soc., 2013, 57, 180-191

<http://www.jmcs.org.mx/PDFS/V57/3/04.-%20Cobbina.pdf>



EPR spectra of frozen solutions in HEPES-S buffer (pH 7.4) containing 0.45 mM BSA (defatted) and with the BSA:V^{IV}O²⁺:Zn(II) ratios indicated.



CD of solutions of V^{IV}O²⁺ and fatted HSA at pH 7.4, upon additions of V^{IV}OSO₄.

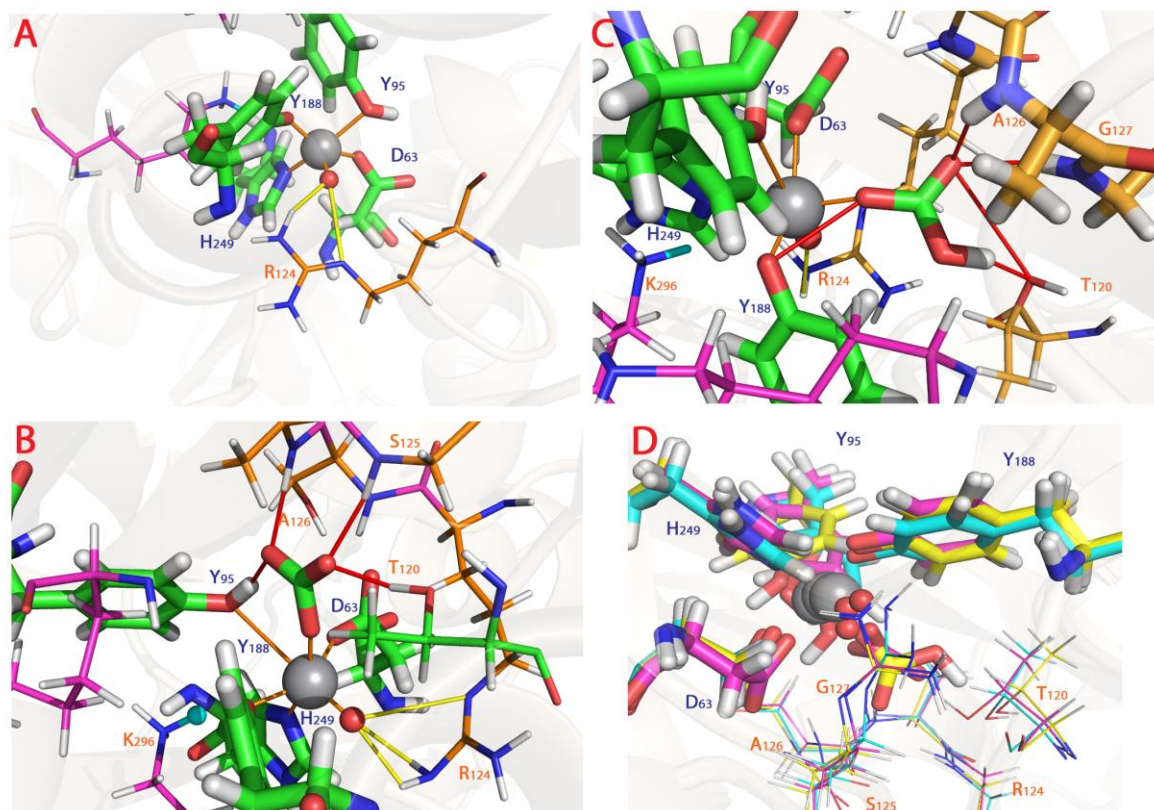
G. C. Justino, E. Garribba, J. Costa Pessoa, *Binding of $V^{IV}O^{2+}$ to the Fe binding sites of human serum transferrin. A theoretical study,*

J. Biol. Inorg. Chem., 2013, 18, 803-813.

[http://download.springer.com/static/pdf/768/art%253A10.1007%252Fs00775-013-1029-](http://download.springer.com/static/pdf/768/art%253A10.1007%252Fs00775-013-1029-x.pdf?auth66=1401017646_968246e8854824dbc90b9748873e56a9&ext=.pdf)

[x.pdf?auth66=1401017646_968246e8854824dbc90b9748873e56a9&ext=.pdf](http://download.springer.com/static/pdf/768/art%253A10.1007%252Fs00775-013-1029-x.pdf?auth66=1401017646_968246e8854824dbc90b9748873e56a9&ext=.pdf)

DOI: 10.1007/s00775-013-1029-x



Several models for binding of $VIVO_2^{2+}$ to the N-lobe of apo-transferrin (A,B,C).

In D the superposition of A, B and C is represented.