# Antifungal activity of iron group complexes with 4,6-di-*tert*- butyl-2,3-dihydroxybenzaldehyde

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The elaboration of new types of antifungal agents is presently a very actual task because of the fast development of microorganisms' resistance to the antifungals, currently used to treat different plant pathogenic fungal diseases [1]. Iron group metal(II) complexes with hydrazone and thiosemicarbazone derivatives of 4,6-di-*tert*-butyl-2,3-dihydroxybenzaldehyde (L I and L II respectively) have been synthesized and characterized by means of elemental analysis, TG/DTA, IR spectroscopy, XRD and conductivity measurements [2]. Antifungal activities of these ligands and their Fe(II), Co(II), Ni(II) complexes have been determined against *Alternaria alternata, Sclerotinia sclerotiorum, Aspergillus niger*, *Fusarium sp.*, *Penicillium lividum, Mucor sp.*, *Botrytis cinerea* (Figure) using *in vitro* test method described elsewhere [3]. Among the test microorganisms there were plant pathogenic fungi (*Fusarium sp.*, *Botrytis cinerea, Alternaria alternata, Sclerotinia clerotiorum*). Most of the compounds (both the free ligands and the complexes) exert a pronounced antifungal activity (*RI* ≥70 %, *RI* – the degree of inhibition of radial fungal growth), but virtually all of them have the highest inhibitory properties (*RI* = 100 %) against *Alternaria alternata, Sclerotinia sclerotiorum and Botrytis cinerea.* These facts may be of interest in the design of new effective agents against plant pathogenic fungi.

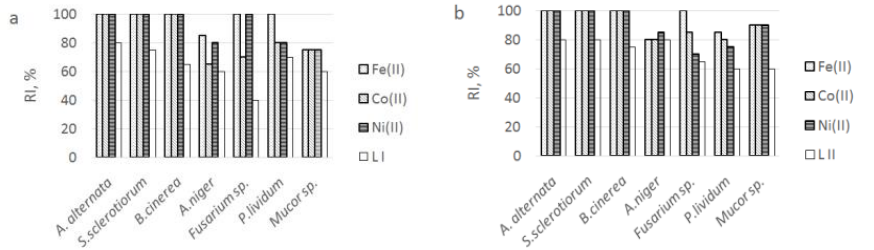


Fig. Antifungal activities of these ligands and their Fe(II), Co(II), Ni(II) complexes with: a – hydrazone derivative of 4,6-di-*tert*-butyl-2,3-dihydroxybenzaldehyde; b − thiosemicarbazone derivative of 4,6-di-*tert*-butyl-2,3-dihydroxybenzaldehyde

**Acknowledgement**

This work was supported by BRFFR, grant № X20MB-001.

**References**

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[3] V. Lorian. Antibiotics in Laboratory Medicine (2005) 832