

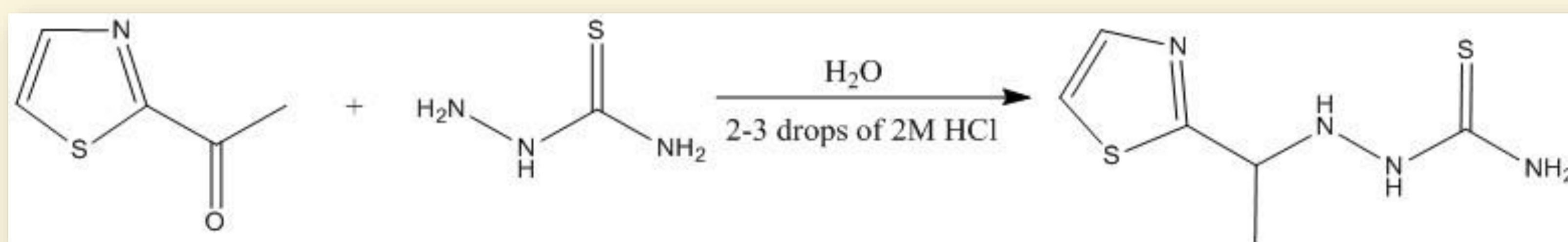
Milica Savić^a, Nevena Stevanović^b, Mima Jevtović^c, Maja Gruden^b, Katarina Anđelković^b,
Božidar Čobeljić^b, Matija Zlatar^a

^aUniversity of Belgrade-ICTM, Department of Chemistry, Njegoševa 12, 11000 Belgrade, Serbia

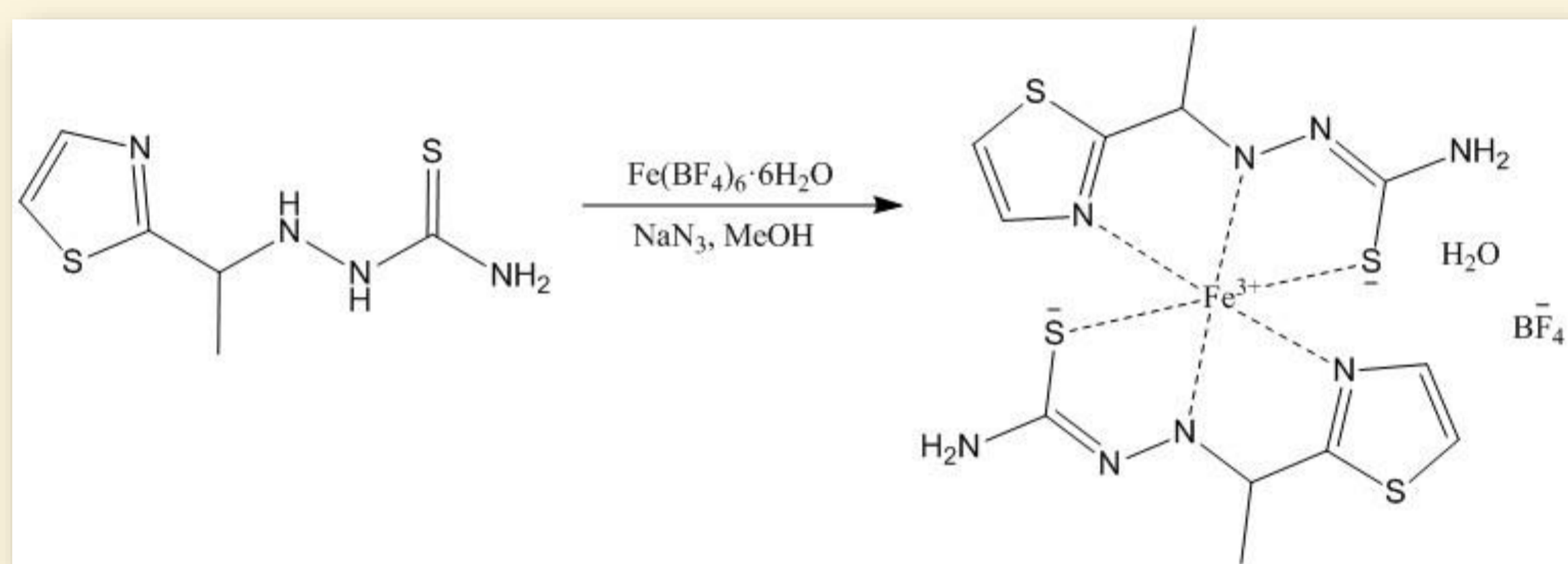
^bUniversity of Belgrade-Faculty of Chemistry, Studentski trg 12–16, 11000 Belgrade, Serbia

^cInnovative Centre of Faculty of Chemistry, Studentski Trg 12-16, 11000 Belgrade, Serbia

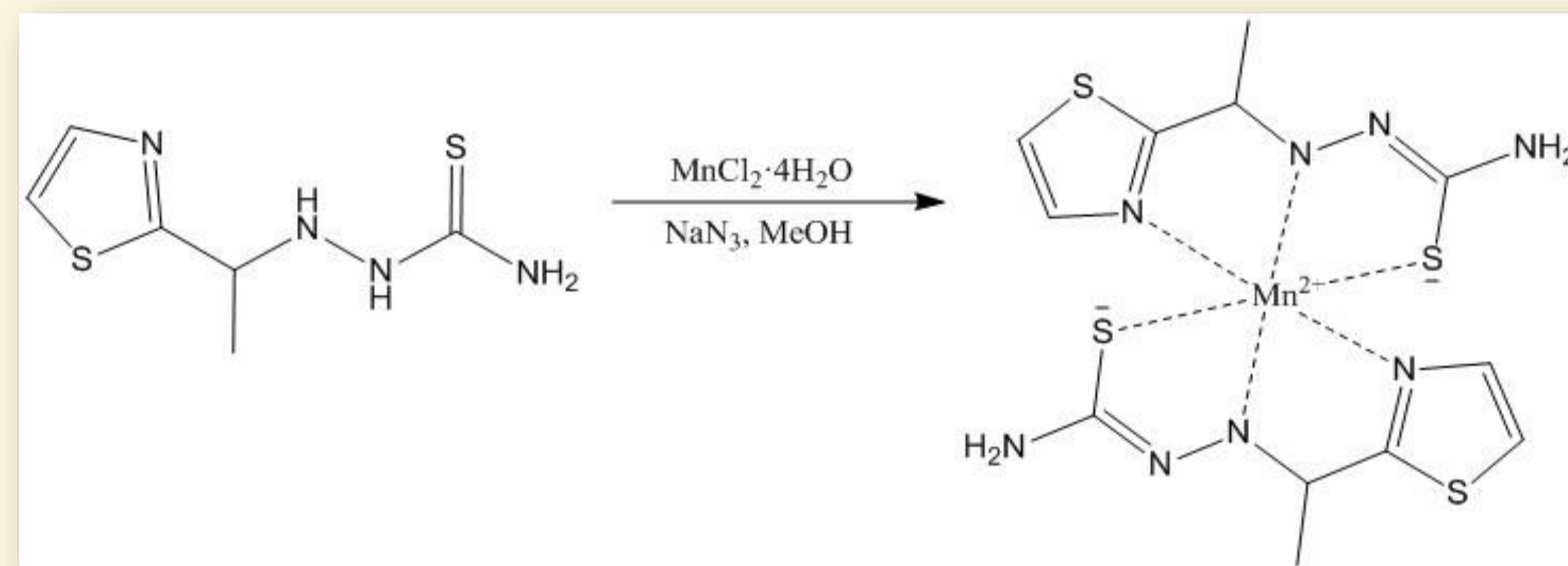
The ligand **HL** (**HL** ligand, (*E*)-2-(1-(thiazol-2-yl)ethylidene)hydrazine-1-carbothioamide) was synthesized in the reaction of thiosemicarbazide and 2-acetylthiazole in molar ratio 1:1 in water, with 3 drops of 2M HCl. (**Scheme 1**). The complex [Fe(L)₂]BF₄·H₂O (**1**) was synthesized in reaction of ligand and Fe(BF₄)₆·6H₂O in MeOH, after complete dissolution of Fe(BF₄)₂·6H₂O in the reaction mixture, NaN₃ was added (**Scheme 2**). In the reaction of ligand (**HL**), MnCl₂·4H₂O and NaN₃, in molar ratio 1 : 1 : 4, Mn(II) complex (**2**) was obtained. (**Scheme 3**).



Scheme 1. Synthesis of ligand HL



Scheme 2. Synthesis of complex [Fe(L)₂]BF₄·H₂O (**1**)



Scheme 3. Synthesis of complex [Mn(L)₂] (**2**)

Complexes **1** and **2** were characterized by elemental analysis, IR and UV/Vis spectroscopy and X-ray crystallographic analysis. Both complexes **1** and **2** with **HL** ligand are bis octahedral complexes in which two deprotonated ligand molecules coordinate in a *mer* arrangement through two NNS sets of donor atoms, through thiazole and imine nitrogens and thioenolate sulfur (**Fig. 1**; **Fig. 2**).

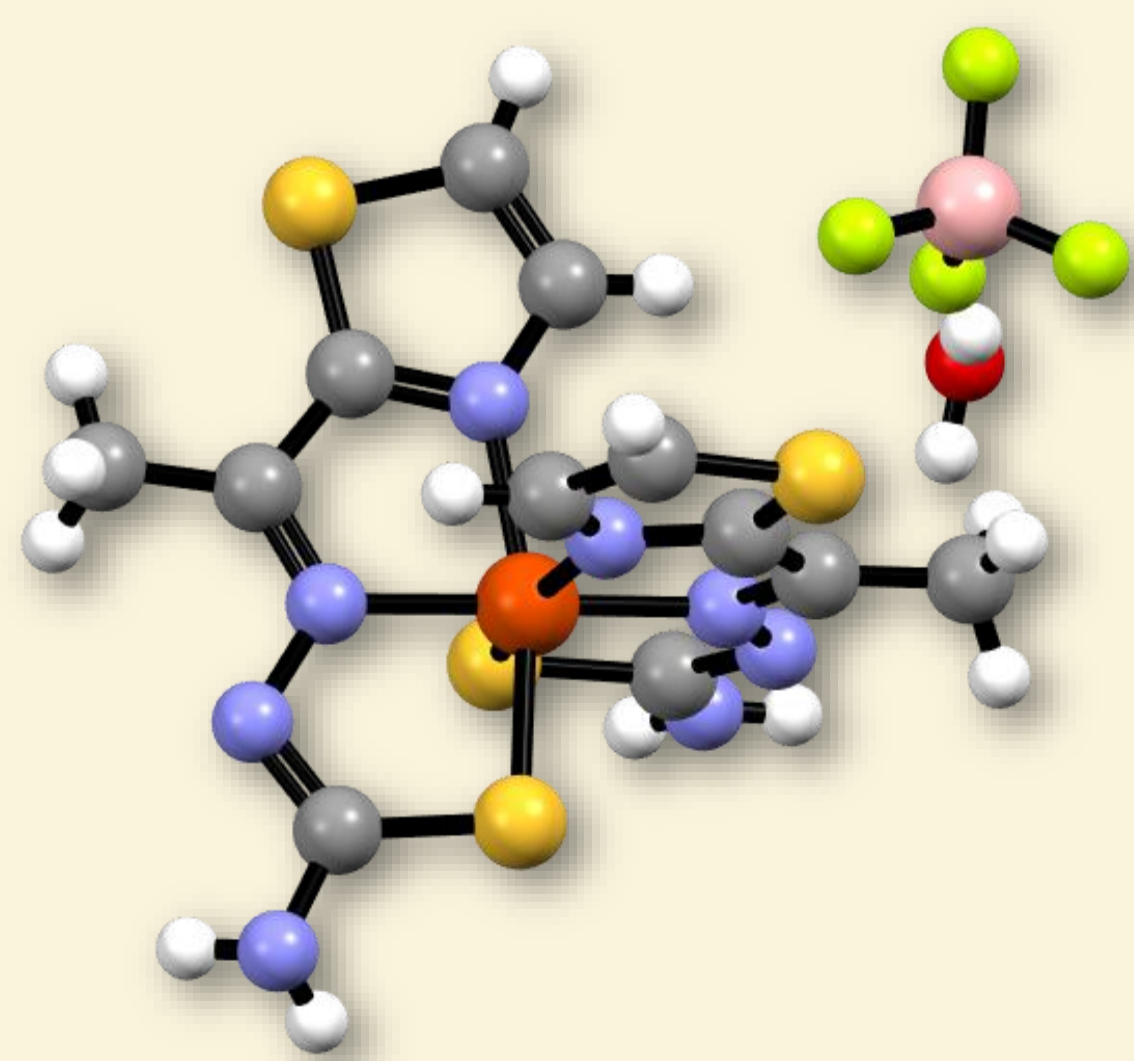


Fig 1. [Fe(L)₂]BF₄·H₂O (**1**)

Fig. 1. The complex **1** crystallizes in the orthorhombic space group *Pbca*.

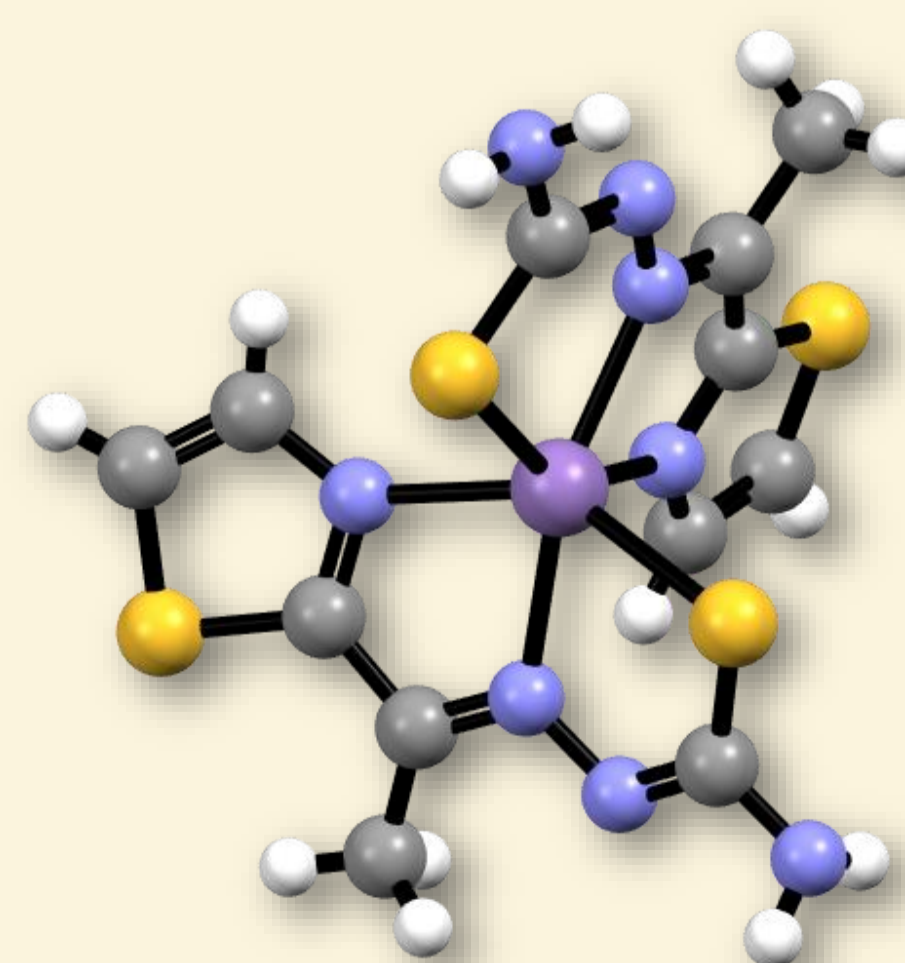


Fig 2. [Mn(L)₂] (**2**)

Fig. 2. The complex **2** crystallizes in the triclinic space group *P-1*.