

Syntheses, structures, and antimicrobial activity of new remarkably light-stable and water-soluble tris(pyrazolyl)methanesulfonate silver(I) derivatives of *N*-methyl-1,3,5-triaza-7-phosphaadamantane salt - [mPTA]BF<sub>4</sub>.

Autorzy

Piotr Smoleński  
Claudio P. Pettinari  
Fabio Marchetti  
Silva M. Fátima. C. Guedes  
da  
Giulio Lupidi  
Gretta Veronica Badillo  
Patzmay  
Dezemonna Petrelli  
Luca A. Vitali  
Armando J. L. Pombeiro

Rok wydania

2015

Czasopismo

Inorganic Chemistry

Numer woluminu

54

Strony

434-440

DOI

10.1021/ic501855k

Kolekcja

Naukowa

Streszczenie

Two new silver(I) complexes of formula [Ag(mPTA)<sub>4</sub>(Tpms)<sub>4</sub>(BF<sub>4</sub>) (1) and [Ag(Tpms)(mPTA)](BF<sub>4</sub>) (2) (mPTA = *N*-methyl-1,3,5-triaza-7-phosphaadamantane cation, Tpms = tris(pyrazol-1-yl)methanesulfonate anion) have been synthesized and fully characterized by elemental analyses, (1)H and (31)P{(1)H} NMR, ESI-MS, and IR spectroscopic techniques. The single-crystal X-ray diffraction study of 1 discloses a noncoordinated nature of the Tpms species, existing as counterions around the highly charged metal center [Ag(mPTA)](5+), 1 being the first reported coordination compound bearing a κ(0)-Tpms. 1 features high solubility and stability in water (S<sub>25 °C</sub> ≈ 30 mg·mL<sup>-1</sup>). The two complexes interact with calf thymus DNA via intercalation mode, binding to the BSA with decrease of its tryptophan fluorescence with a static quenching mechanism. The two new silver complexes exhibit significant antibacterial and antifungal activities screened in vitro against the standard strains of *Staphylococcus aureus*, *Enterococcus faecalis*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans*.

Adres publiczny

<http://dx.doi.org/10.1021/ic501855k>

Strona internetowa wydawcy

<https://www.acs.org/content/acs/en.html>

Język

---

Angielski

Typ publikacji

---

Artykuł

Plik został wygenerowany dnia 2026-04-29 04:13:46

Adres w repozytorium [https://old.chem.uni.wroc.pl/pl/repozytorium/jl\\_34Ak](https://old.chem.uni.wroc.pl/pl/repozytorium/jl_34Ak).