Stage e Tesi

Componenti del gruppo di ricerca:

Fabio Marchetti e **Corrado Di Nicola** della Scuola di Scienze e Tecnologie.
Claudio Pettinari, **Riccardo Pettinari** e **Alessia Tombesi** della Scuola di Scienze del Farmaco e dei Prodotti della Salute.

Tematiche di ricerca:

- complessi metallici antitumorali,
- complessi metallici antimicrobici,
- complessi metallici luminescenti,
- complessi metallici per la catalisi omogenea,
- materiali reticolari per l'assorbimento di CO_2,
- materiali reticolari per la conversione catalitica di CO_2,
- materiali compositi antimicrobici.

Members of the Research Group

Prof. Fabio Marchetti

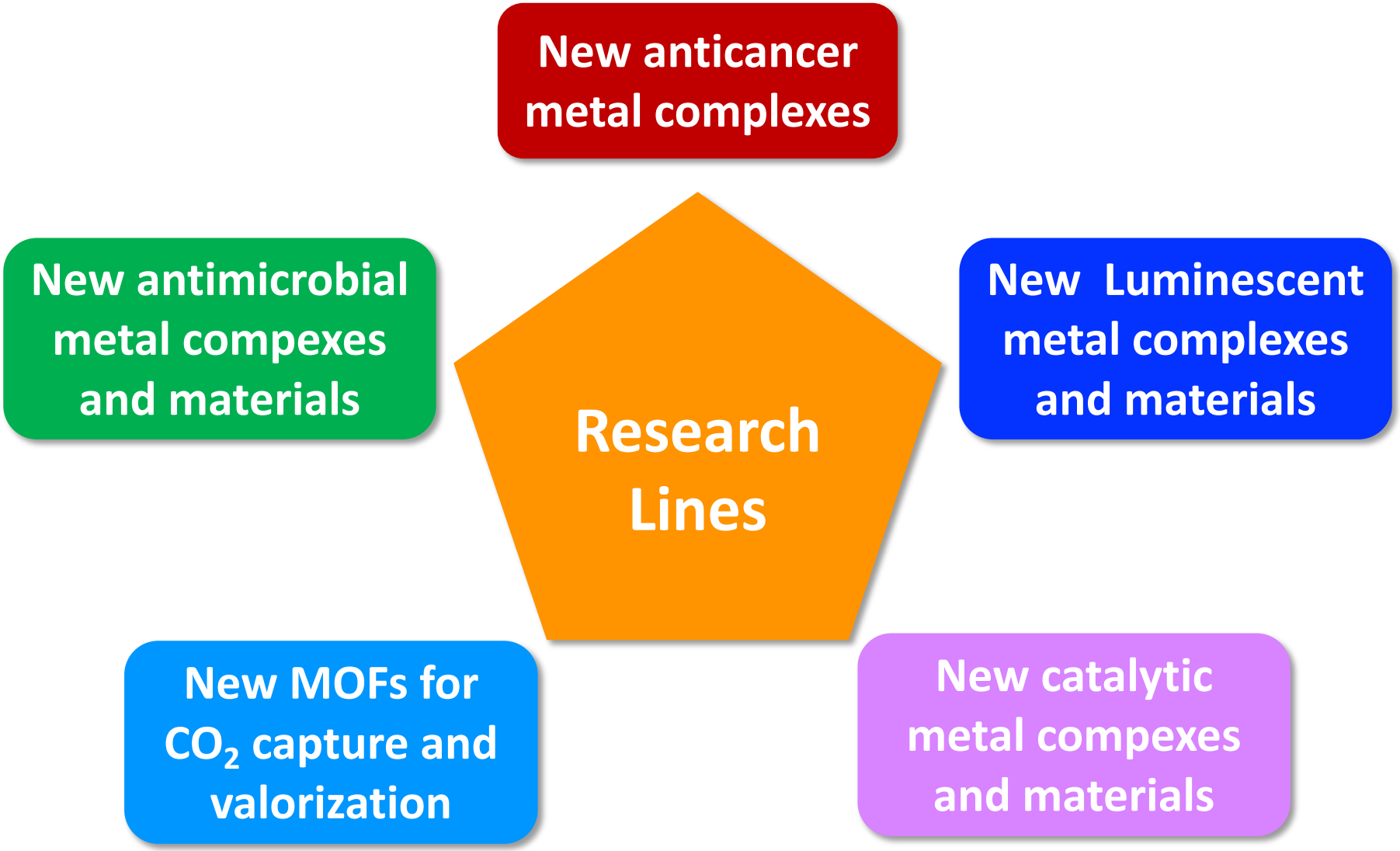
Prof. Riccardo Pettinari

Dr. Alessia Tombesi

Prof. Corrado Di Nicola

Prof. Claudio Pettinari

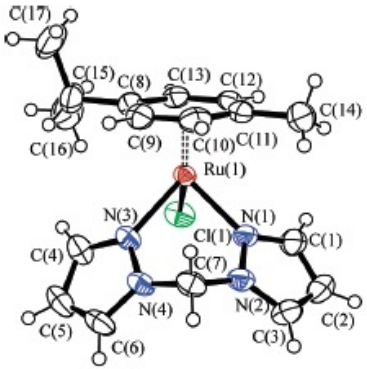
ChIP Reseaerch Center, Via Madonna delle Carceri, 62032 Camerino (MC)

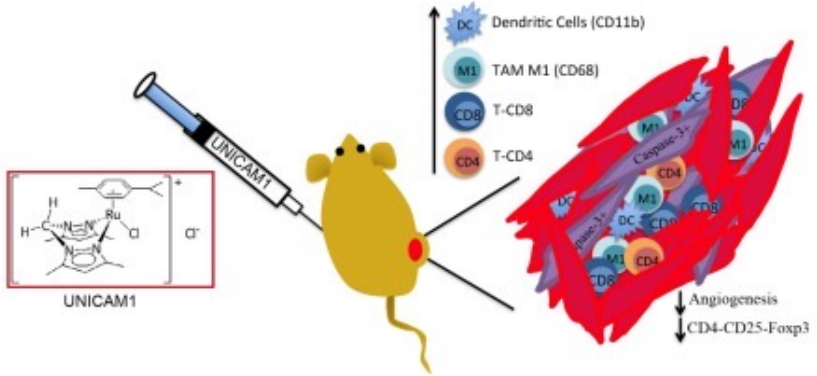


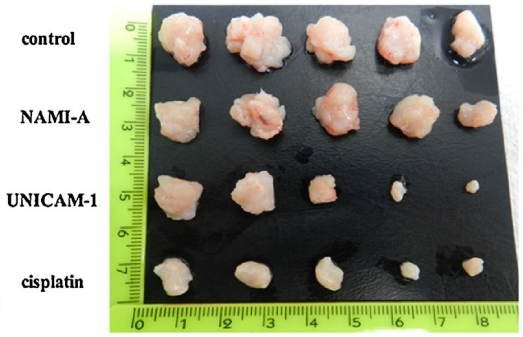
The following slides show some relevant works published by the research group…

New anticancer molecules

Rutenium-based anticancer molecules

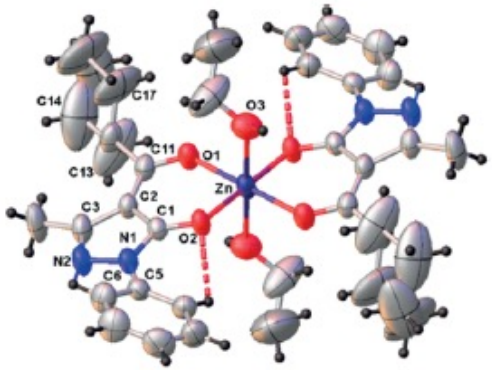


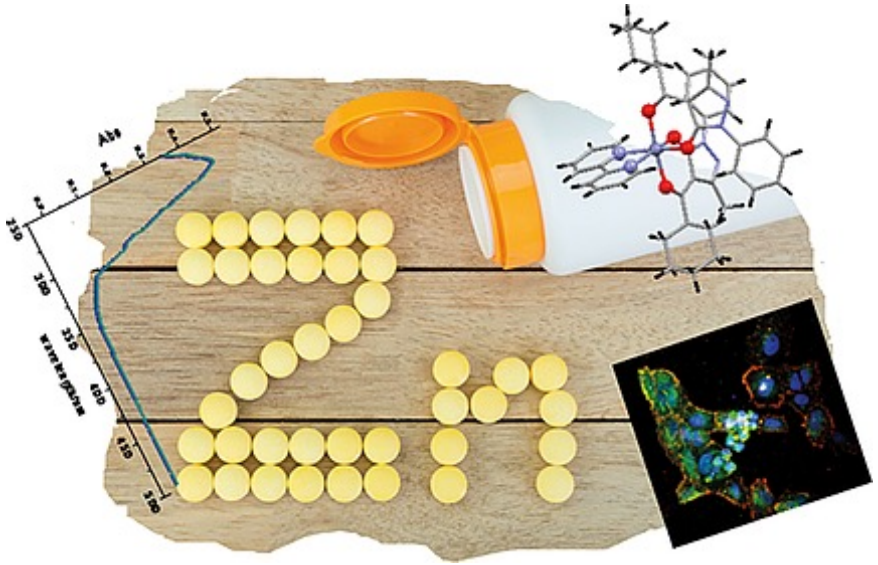




Pharmacol. Res. **2016**, *107*, 282–290
Mitochondrion **2021**, *56*, 25–34

Zinc-based anticancer molecules

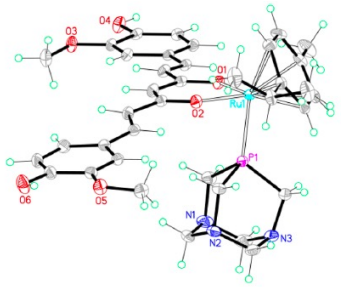


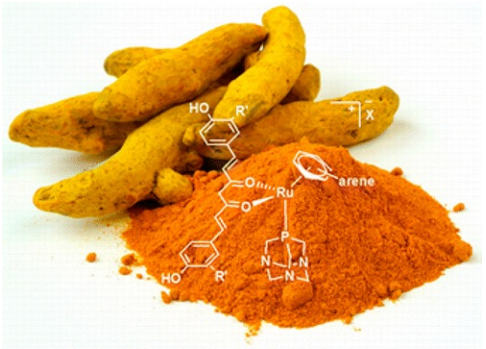


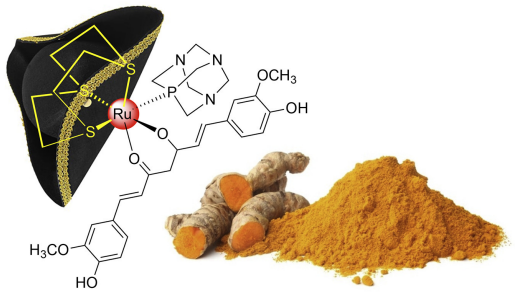
Eur. J. Inorg. Chem. **2020**, 1027–1039

New anticancer molecules

Ruthenium-arene complexes of curcumin





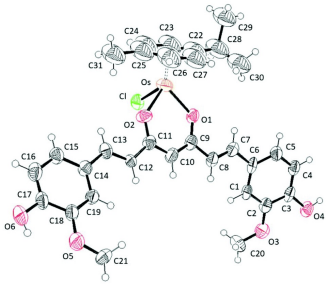


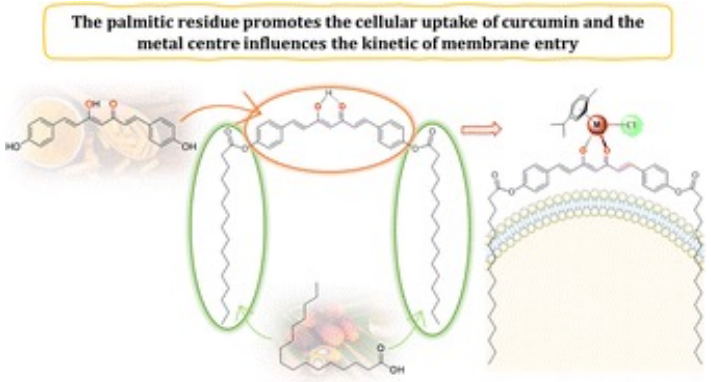
"Put the hat on Curcumin"

J. Med. Chem. **2012**, *55*, 1072−1081
Organometallics **2014**, *33*, 3709−3715
J. Inorg. Biochem. **2016**, *162*, 44–51

J. Inorg. Biochem. **2021**, *218*, 111387
J. Exp. Clin. Canc. Res. **2020**, *39*, 122
Biomedicines **2023**, *11*, 593

Osmium-arene complexes of curcumin



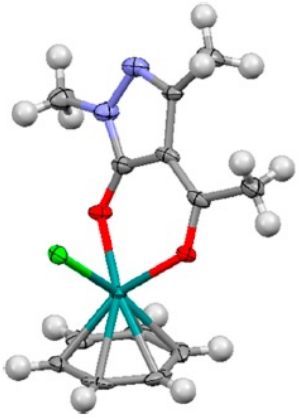


Inorg. Chem. Front. **2019**, *6*, 2448–2457

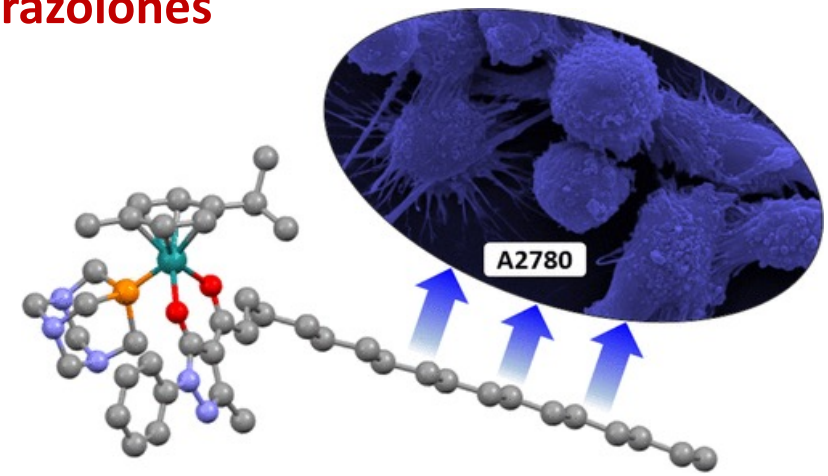
Dalton Trans. **2022**, *51*, 13311-1332

New anticancer molecules

Ruthenium-arene complexes of acylpyrazolones

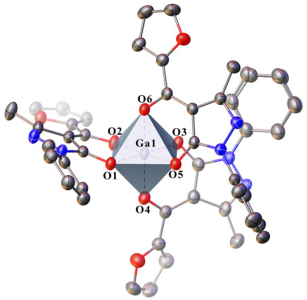


Inorg. Chem. **2014**, *53*, 3668−3677
J. Med. Chem. **2014**, *57*, 4532−4542

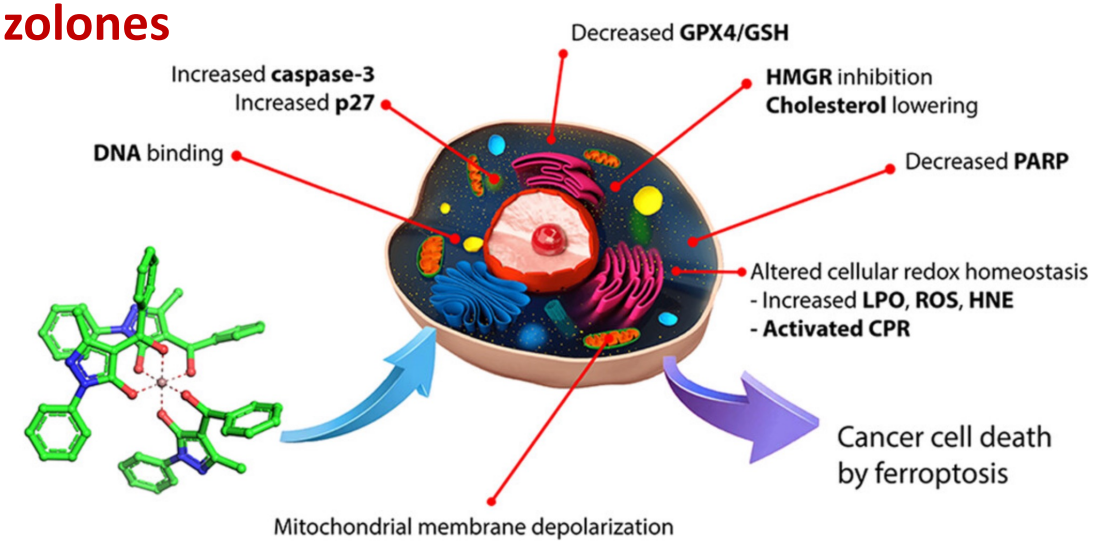


Inorg. Chem. **2016**, *55*, 11770−11781
Dalton Trans. **2018**, 47, 868-878

Gallium complexes of acylpyrazolones

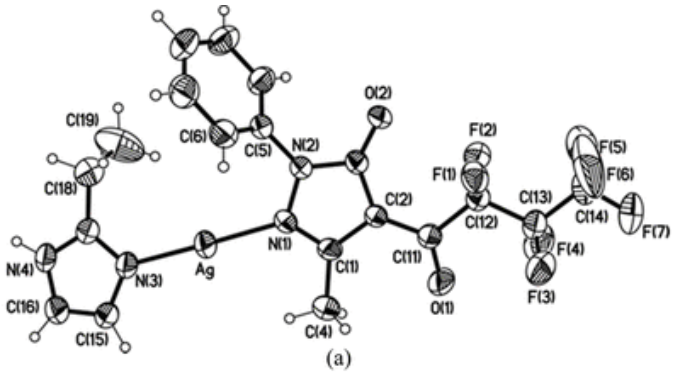


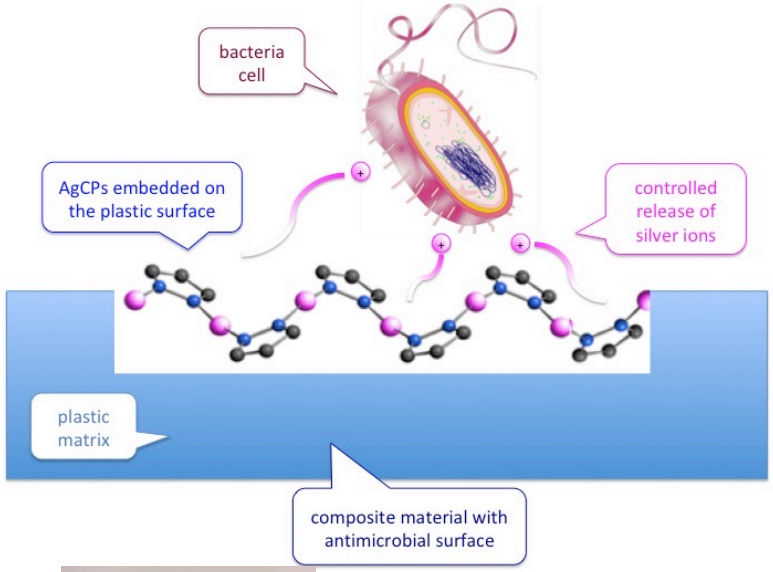
J. Med. Chem. **2023**, *66*, 3212−3225

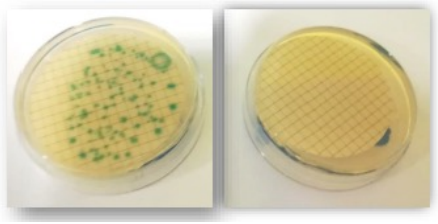


Antimicrobial materials

Ag-based antimicrobial coordination polymers



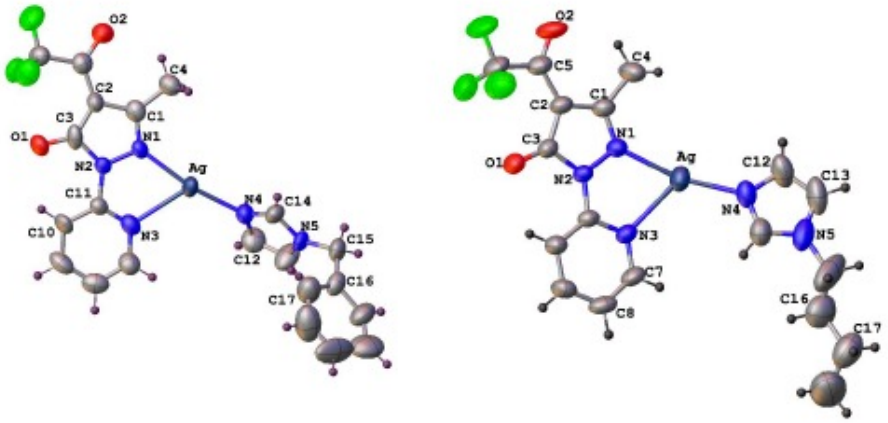


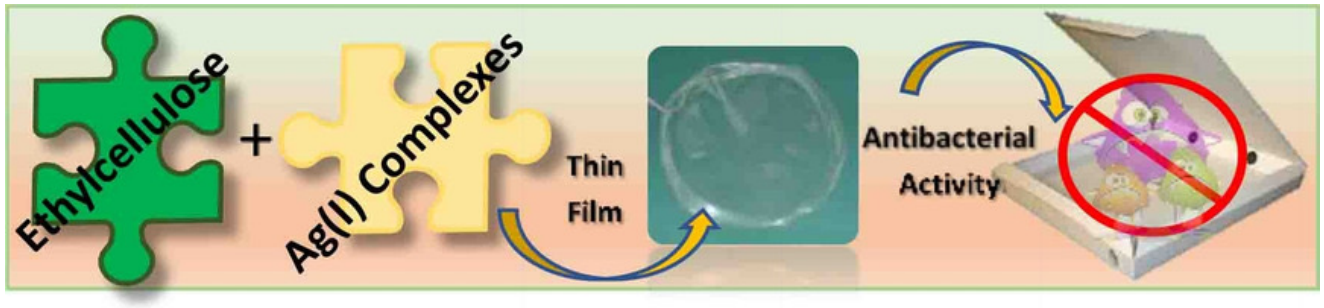


Inorg. Chem. **2012**, *51*, 9775−9788
ACS Appl. Mater. Interfaces **2016**, *8*, 29676−29687

Antimicrobial materials

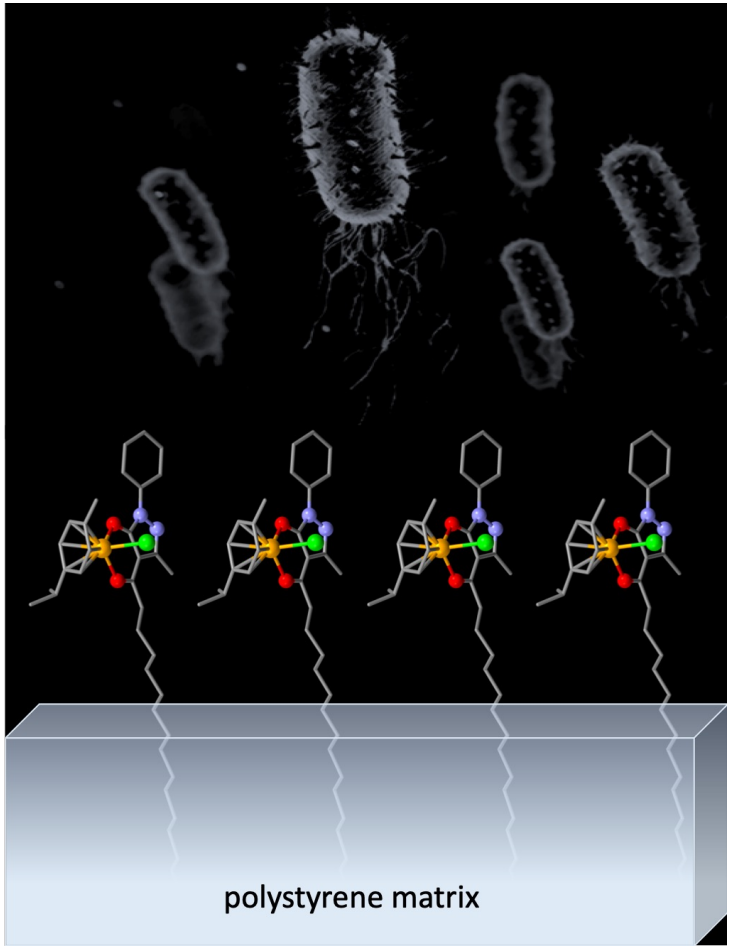
Ag-based antimicrobial ethylcellulose films



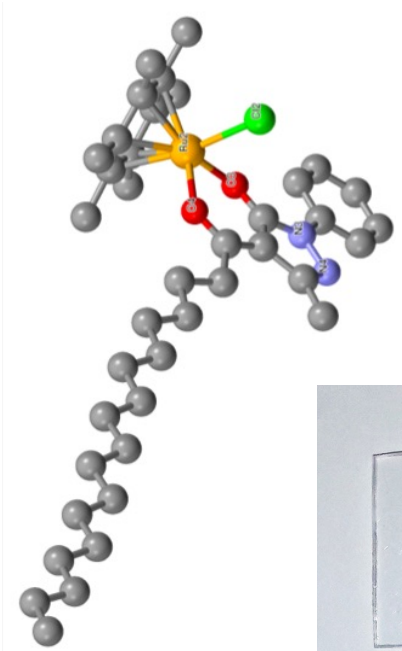


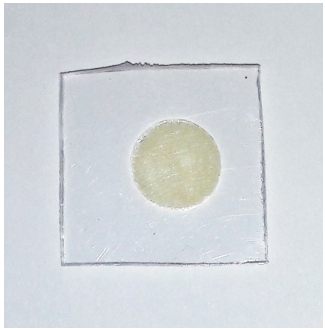
Inorg. Chem. **2016**, *55*, 5453−5466
ChemPlusChem **2020**, *85*, 426 – 440

Antimicrobial materials



Ru-based antimicrobial PE and PS

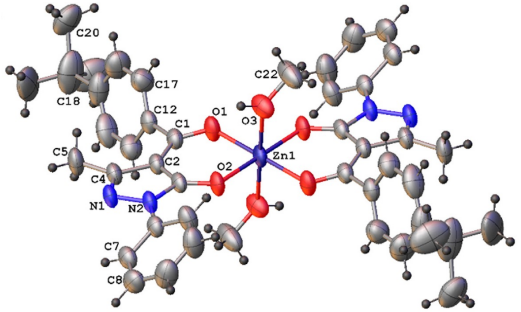


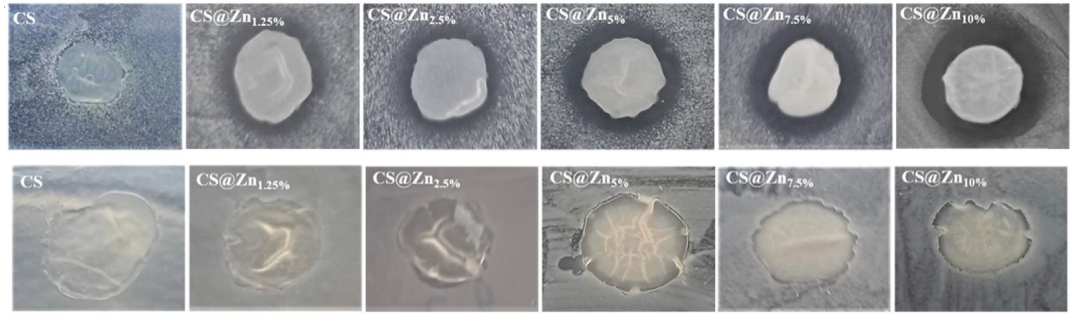


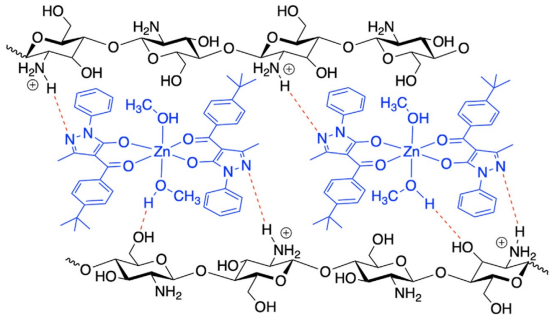
Materials **2020**, *13*, 526

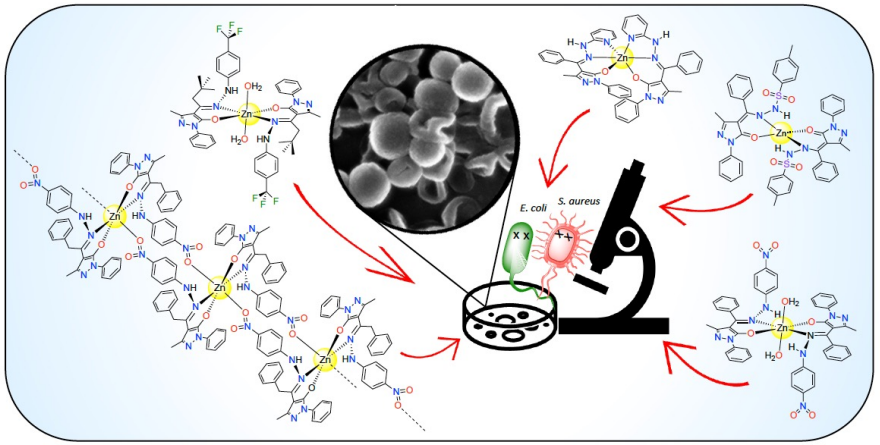
Antimicrobial materials

Zn-based antimicrobial chitosan films







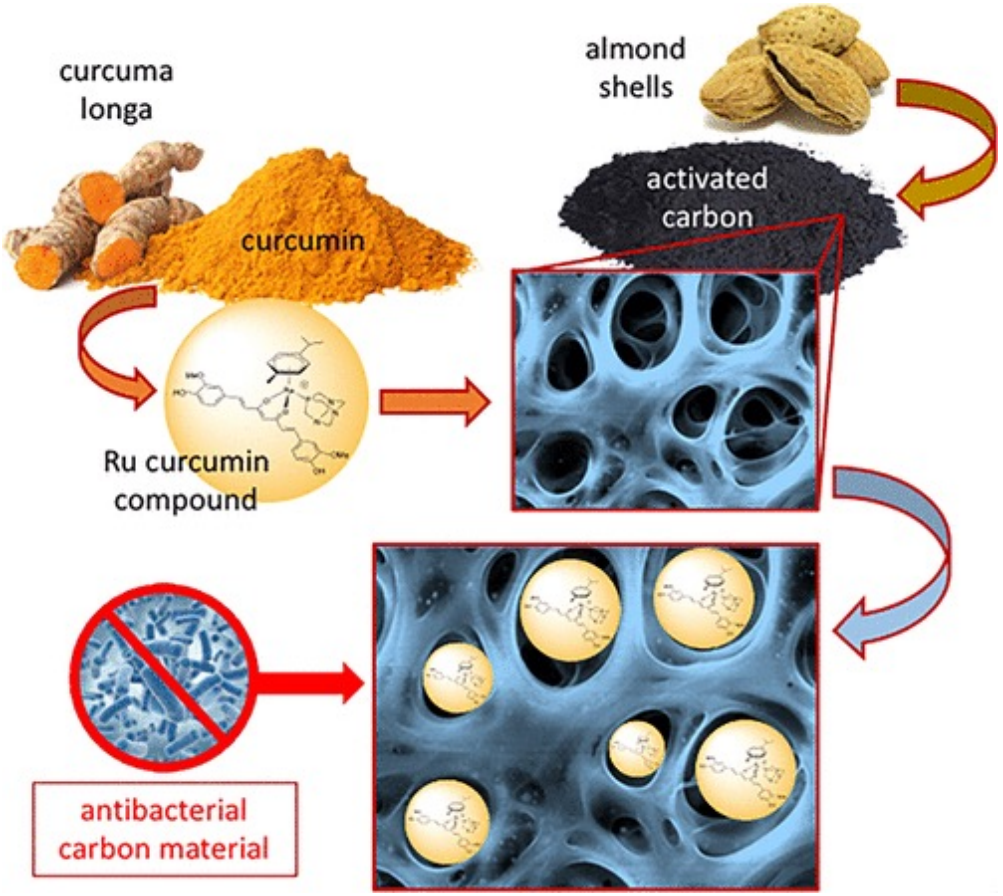


Front. Chem. **2022**, *10*, 884059

Dalton Trans. **2022**, *51*, 14165–14181

Antimicrobial materials

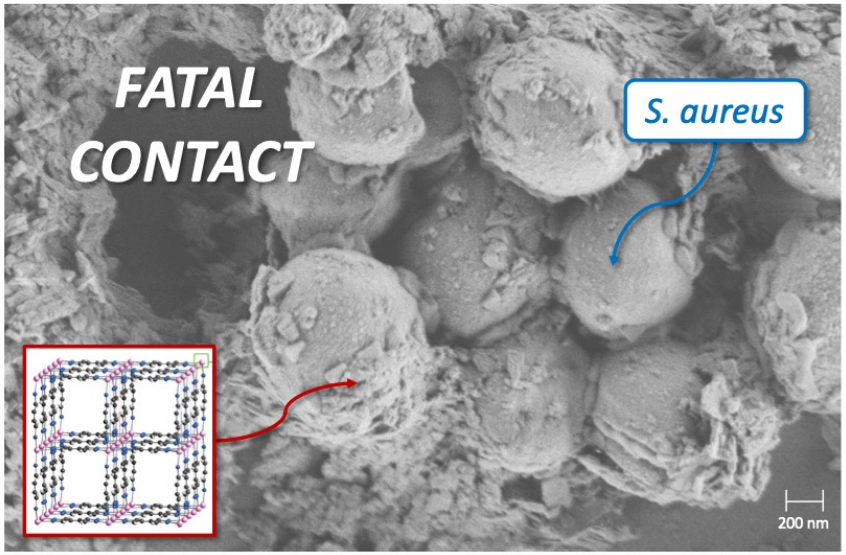
Ru-curcumin based antimicrobial activated carbons

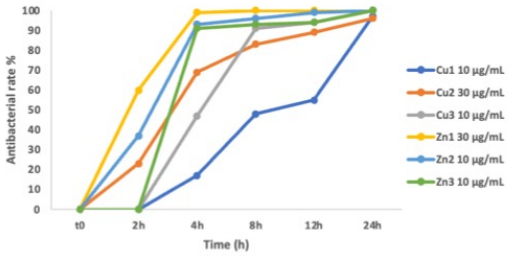


ACS Appl. Bio Mater. **2018**, *1*, 153−159

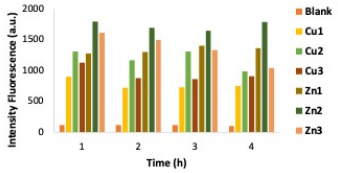
Antimicrobial MOFs

Zn(II) and Cu(II) MOFs with antimicrobial activity

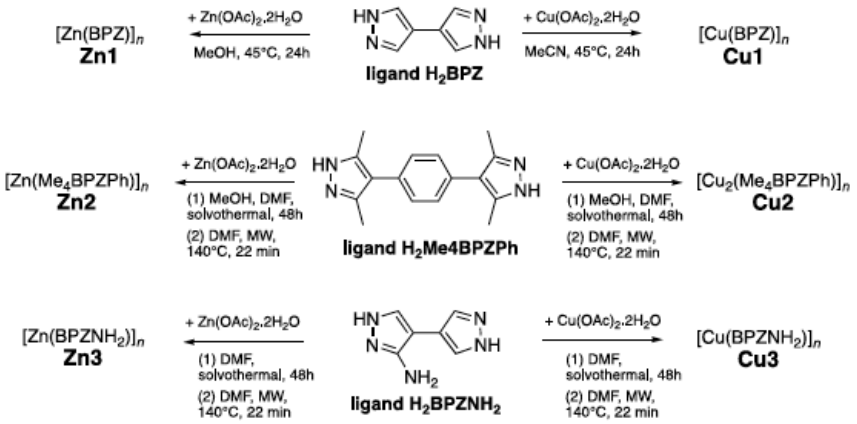




Growth inhibition



ROS generation

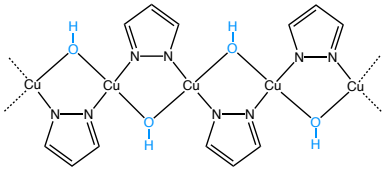


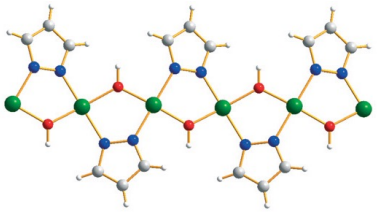
Coord. Chem. Rev. **2021**, *446*, 214121

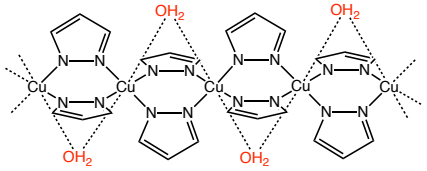
Molecules **2023**, *28*, 6160

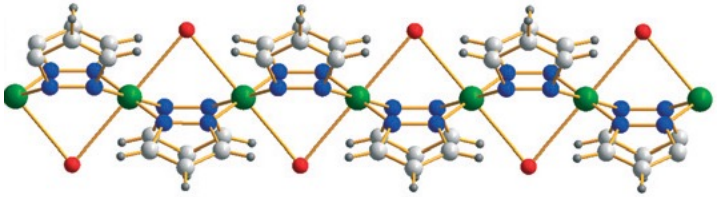
Antimicrobial CPs

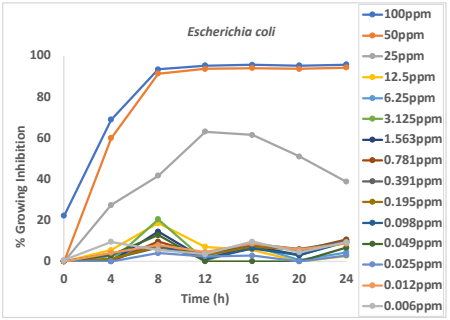
Cu(II) CPs with antimicrobial activity

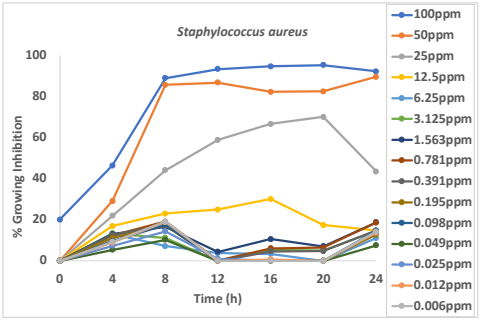


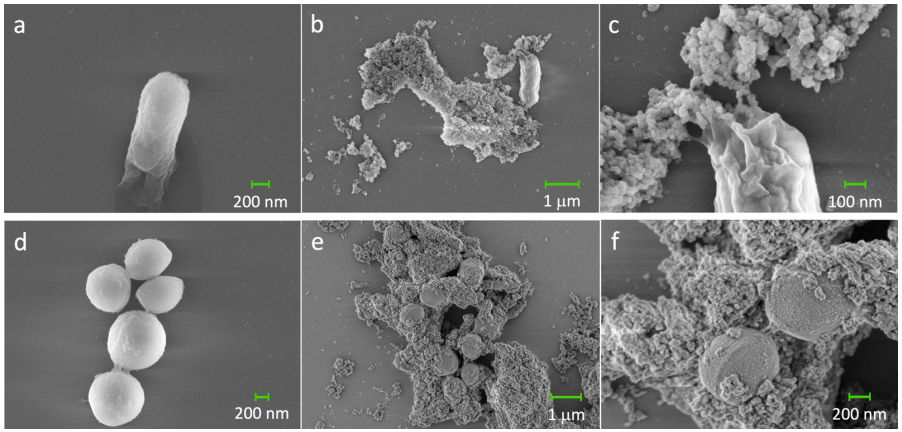










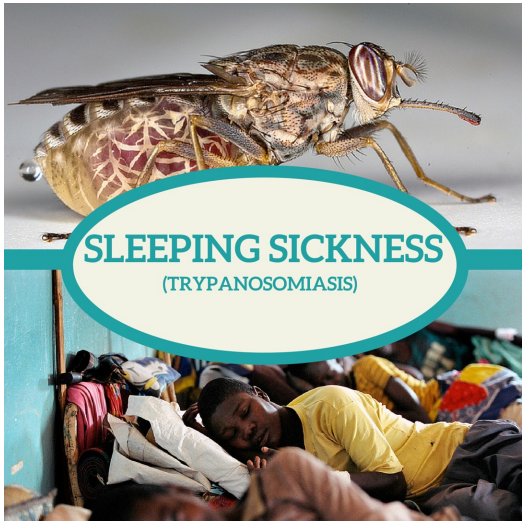


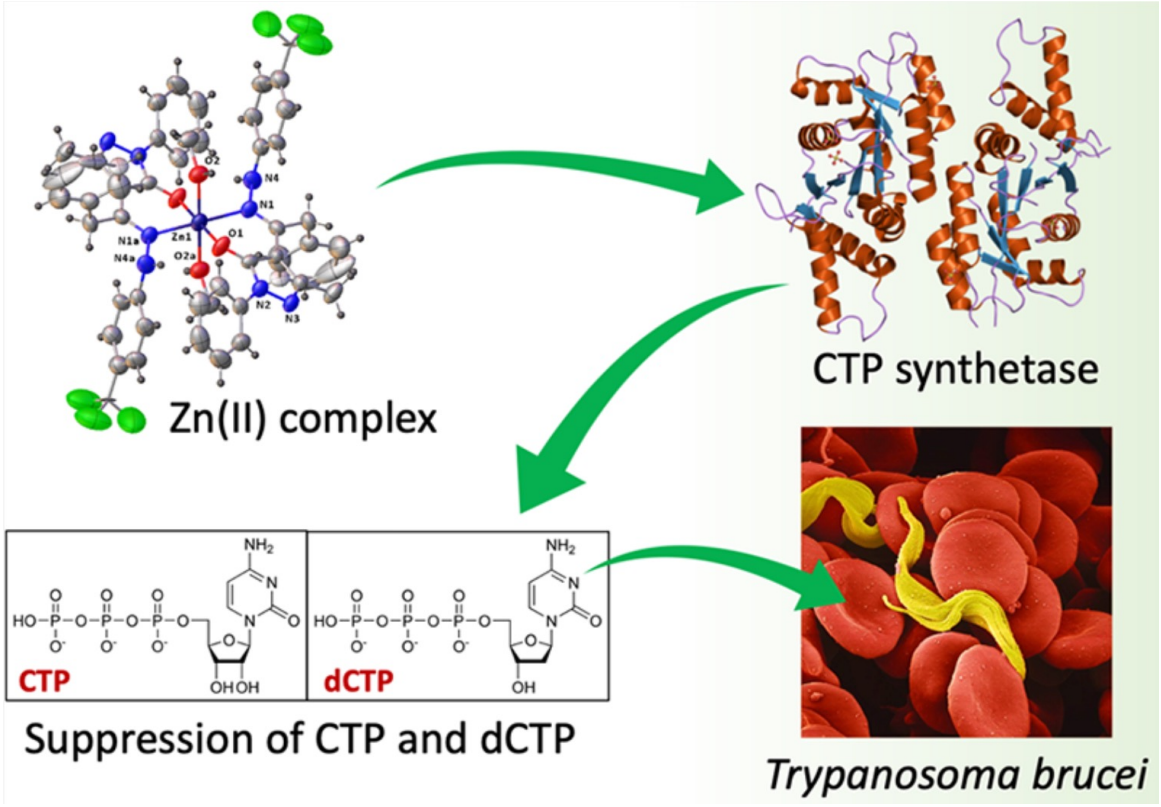
CrystEngComm **2020**, *22*, 3294–3308

New J. Chem. **2023**, *asap*

Metal complexes with biological activity

Zn(II) complexes against African Sleeping Sickness

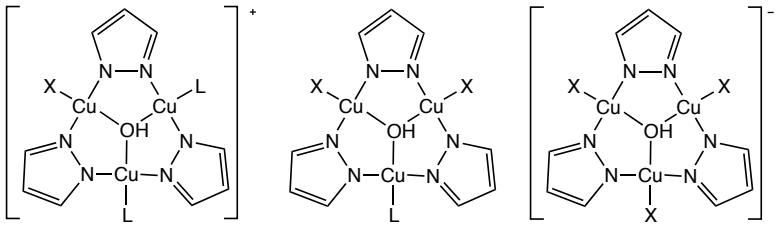


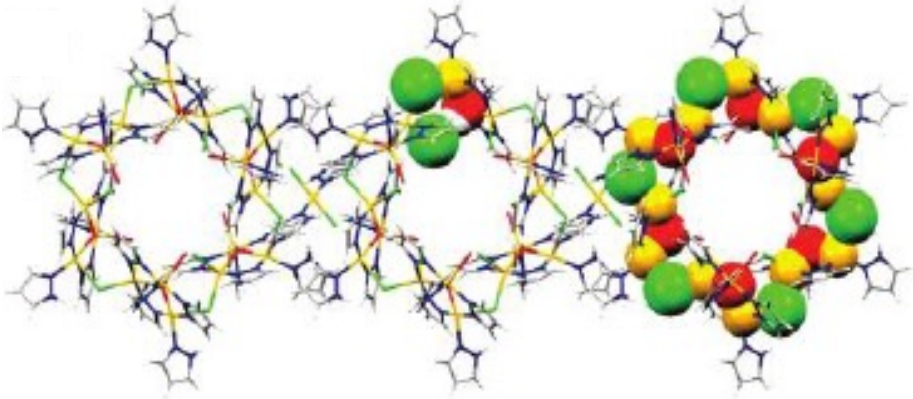


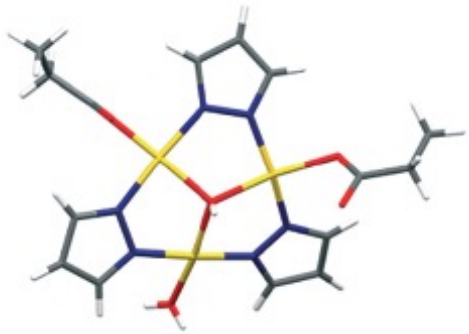
Inorg. Chem. **2022**, *61*, 13561-13575

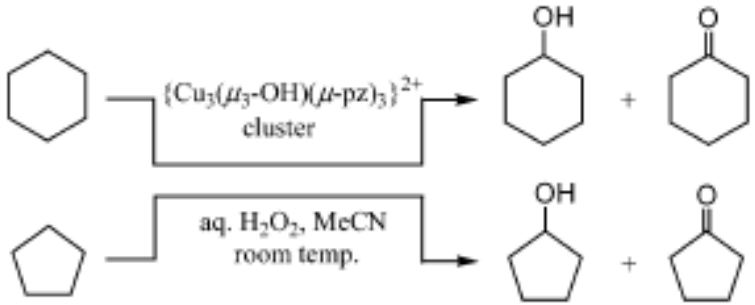
CPs and MOFs with catalytic activity

Catalytic Cu(II) CPs and MOFs in alkanes oxidation









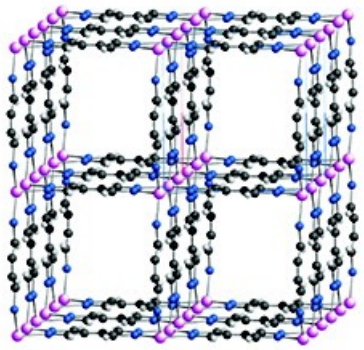
Inorg. Chem. **2007**, *46*, 221-230

Inorg. Chem. **2004**, *43*, 5865-5876
Cryst. Growth Des. **2007**, *7*, 676-685

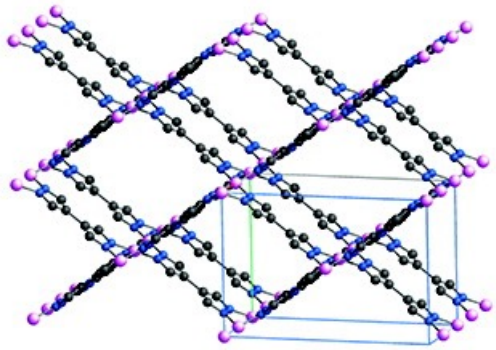
MOFs with catalytic activity

Catalytic Zn(II), Co(II), Ni(II) and Cu(II) MOFs in olefines oxidation

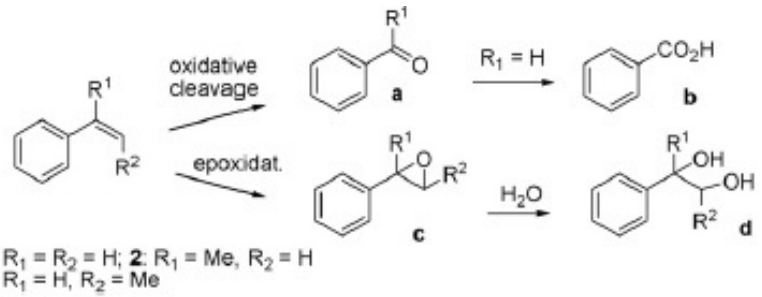
D = from 4.1 to 5.3 Å

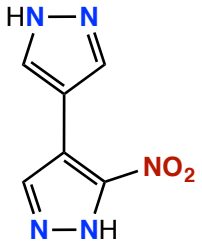


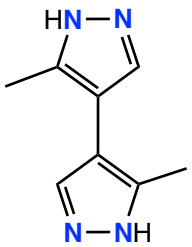
Zn(BPz), CoBPz

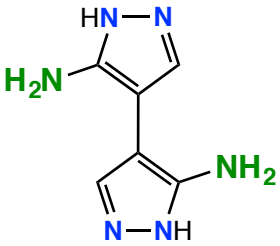


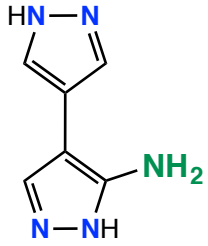
Ni(BPz), Cu(BPz)









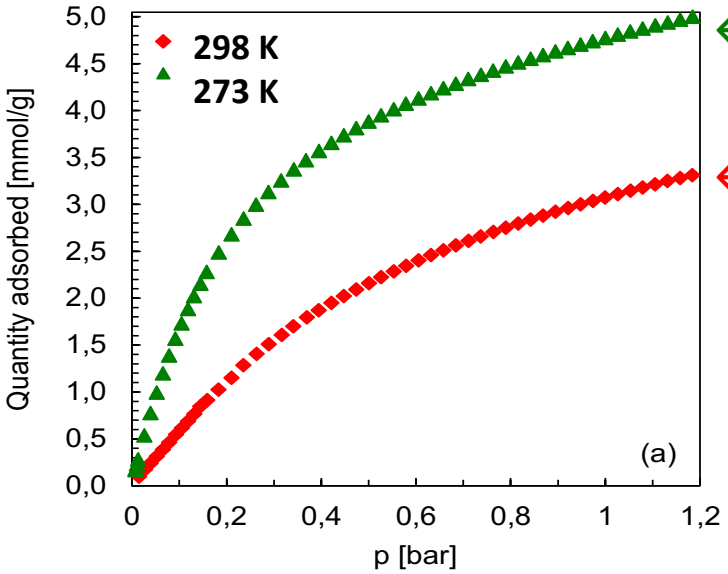


Inorg. Chem. **2012**, *51*, 5235-5245

Chem. Eur. J. **2018**, *24*, 13170-13180

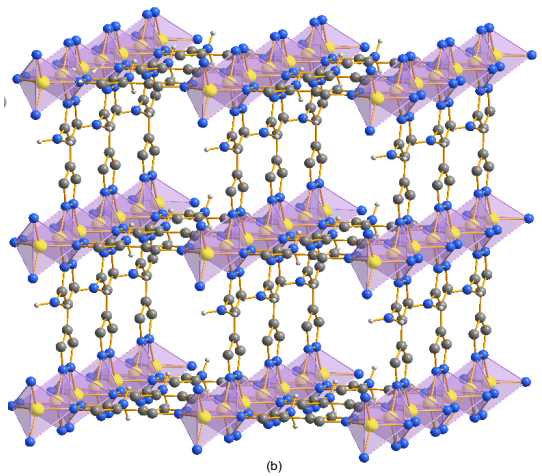
MOFs for gas storage

CO_2 adsorption by Zn(II) MOFs

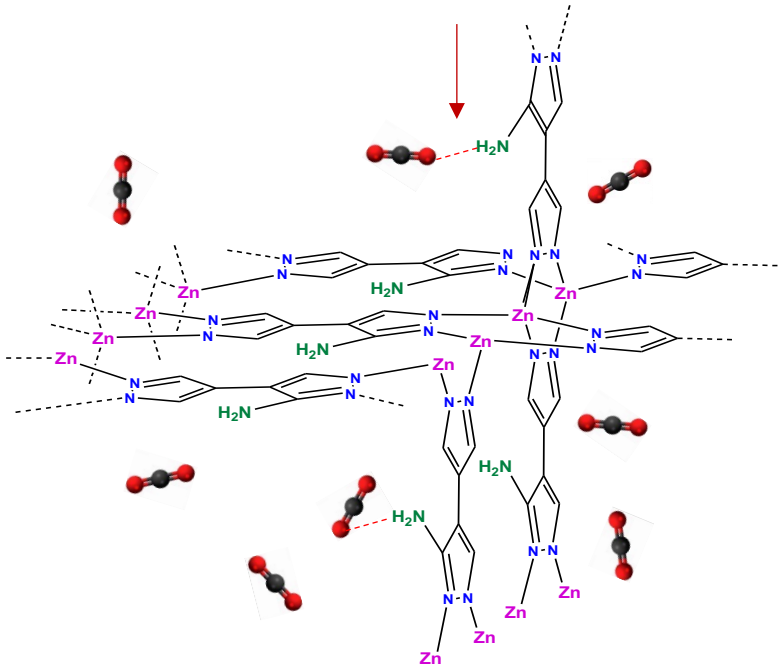


← 4,8 mmol/g of CO_2 at 273 K

← 3,1 mmol/g of CO_2 at 298 K



Host-guest interactions



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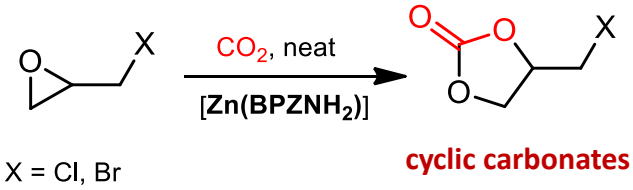
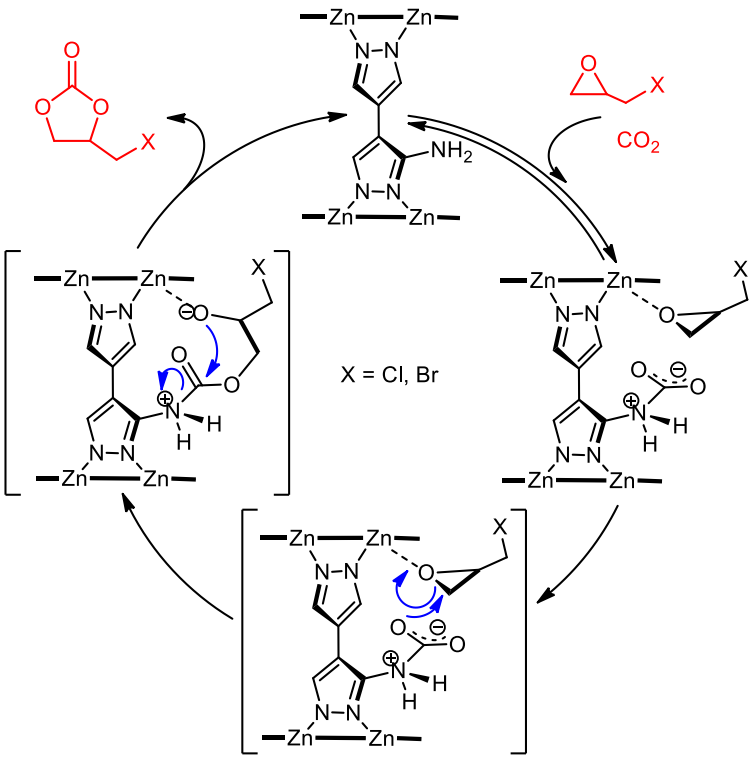
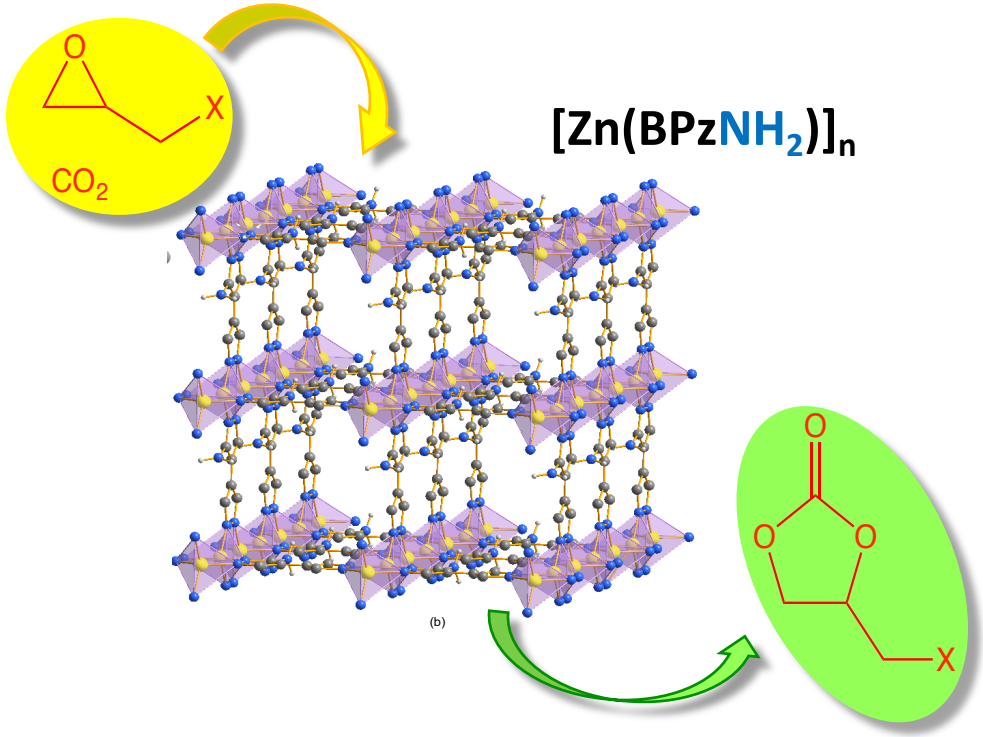
MOFs for gas storage and conversion

CO_2 capture and conversion by Zn(II) MOFs







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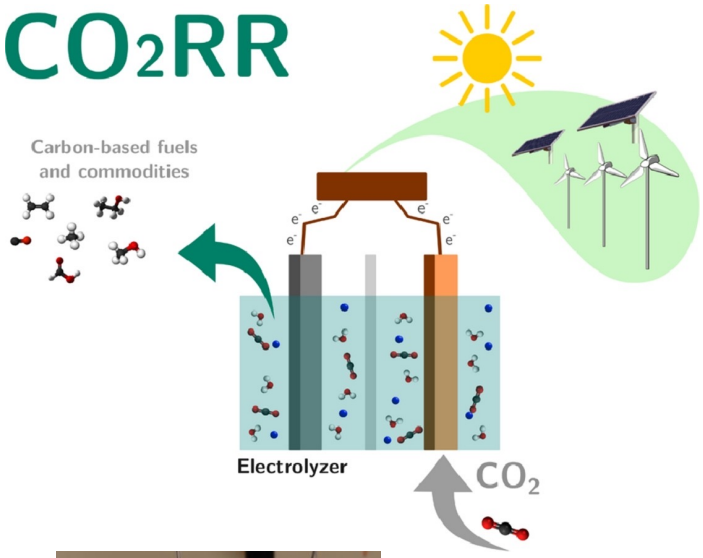
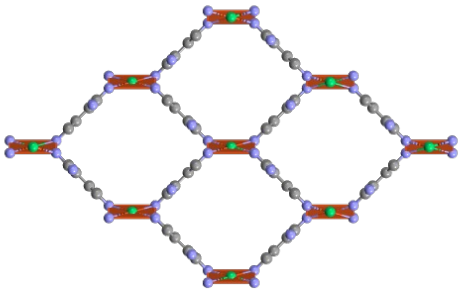
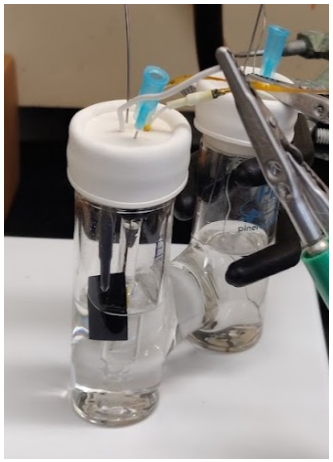
MOFs with electrocatalytic activity

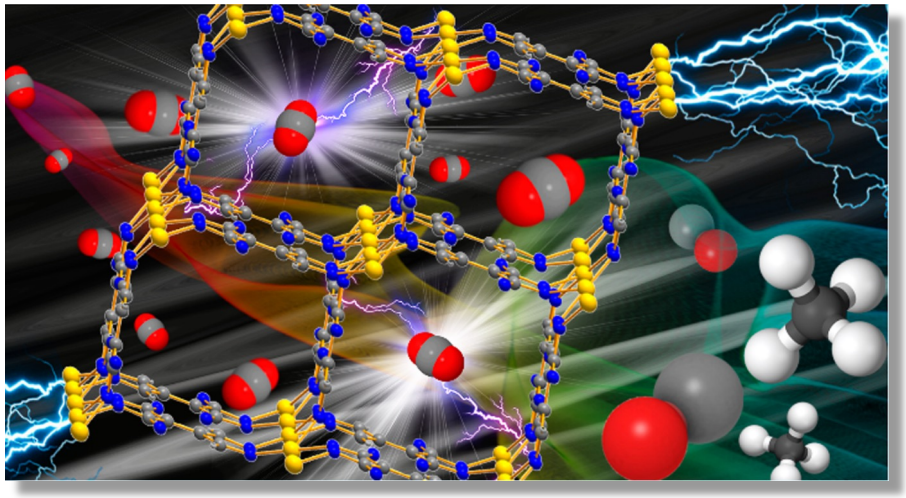
Electrocatalytic CO_2 reduction by Cu/Ni mixMOFs





$(Ni/Cu)N_4$ square planar nodes





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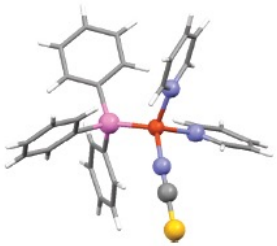
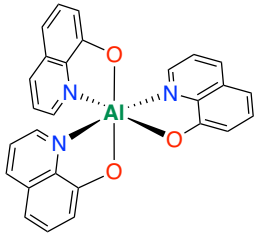
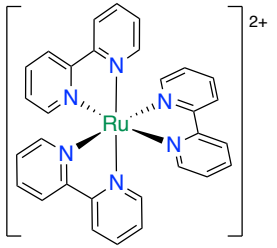
doi.org/10.1021/acsaem.3c00780

New luminescent materials

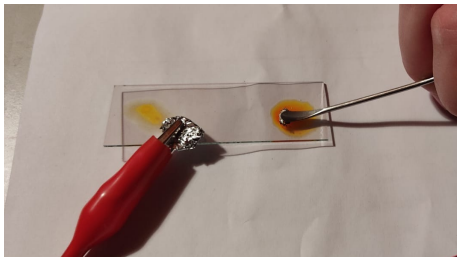
Triboluminescence



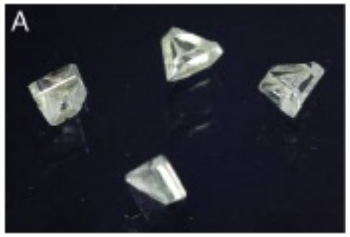


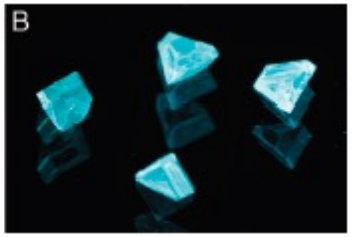


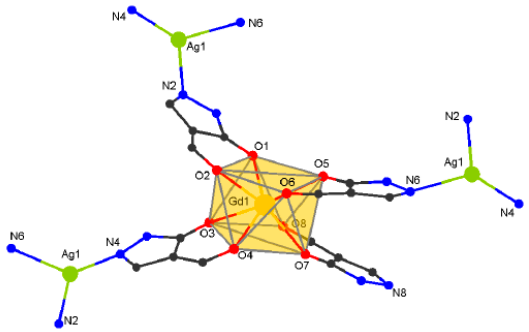
Electroluminescence

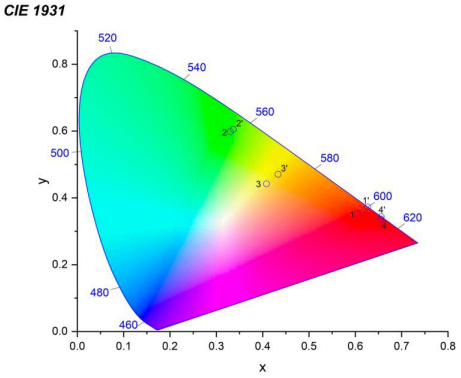


Photoluminescence









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