# Crystal structures of host-guest complexes of carboxylated pillar[5]arene with drugs

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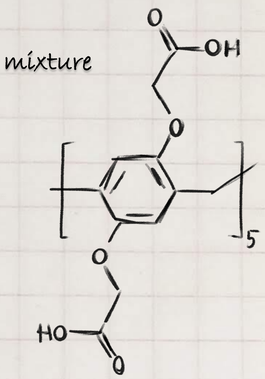
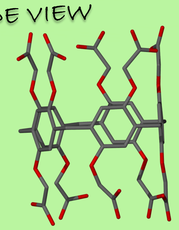
## 1. Carboxylated pillar[5]arene (CPA5)

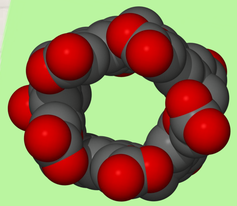
- Soluble in water in the anionic form
- In the neutral form soluble in water-ethanol mixture



SIDE VIEW



TOP VIEW



ACKNOWLEDGMENTS

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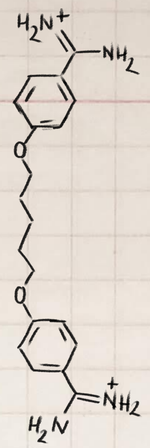
## 2. Pentamidine (PTM)

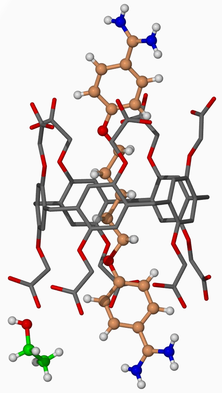


CPA5 + PTM + $13H_2O$ (2 days)

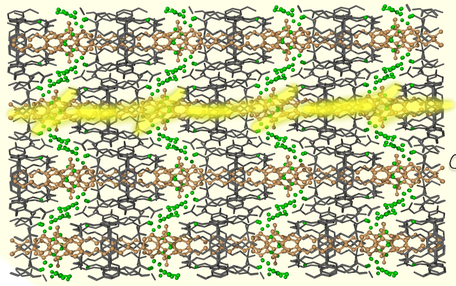
CPA5 + PTM + EtOH + $9H_2O$ (2 months)

2CPA5 + 3PTM + $12H_2O$ (3 months)

1 vial – 3 crystals – 3 structures



CPA5 + PTM + EtOH + $9H_2O$

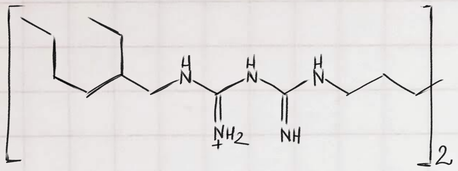


Chain motif

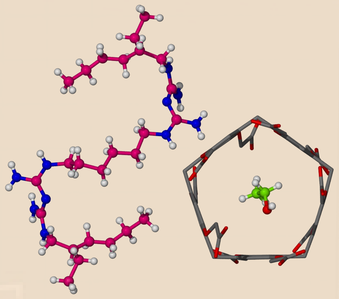
## 6. CONCLUSIONS

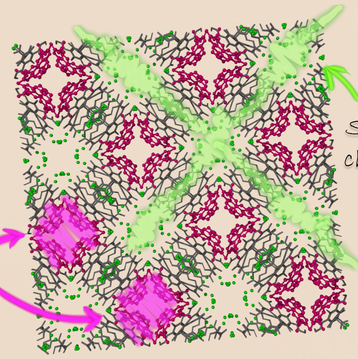
- Complexes of CPA5 with amdines and guanidines create various different motifs
- 3 crystalline forms of complexes of CPA5 with PTM were obtained as a result of time dependend sequential crystallization
- These complrxes have potential use as drug delivery systems

## 5. Alexidine (ALX)



0.5(CPA5 + ALX + EtOH) + $5H_2O$

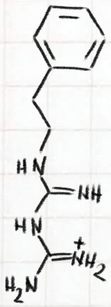




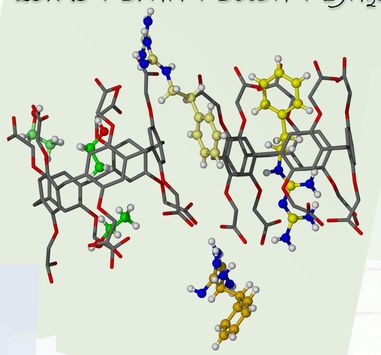
Solvent channels

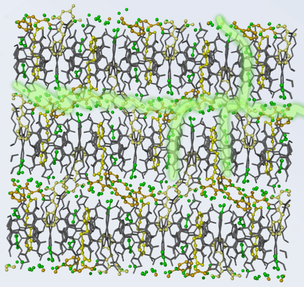
alexidine channels

## 4. Phenformin (PHN)



2CPA5 + 3PHN + 3EtOH + $19H_2O$

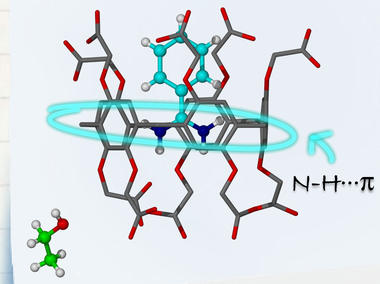




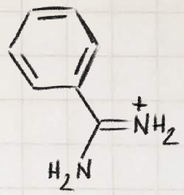
Solvent layers connected by cavities

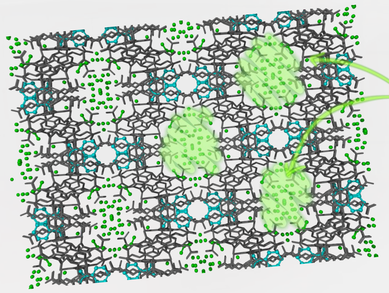
## 3. Benzamidine (BNZ)

CPA5 + BNZ + EtOH + $9.75H_2O$



N-H···π





Solvent channels