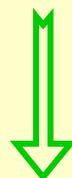
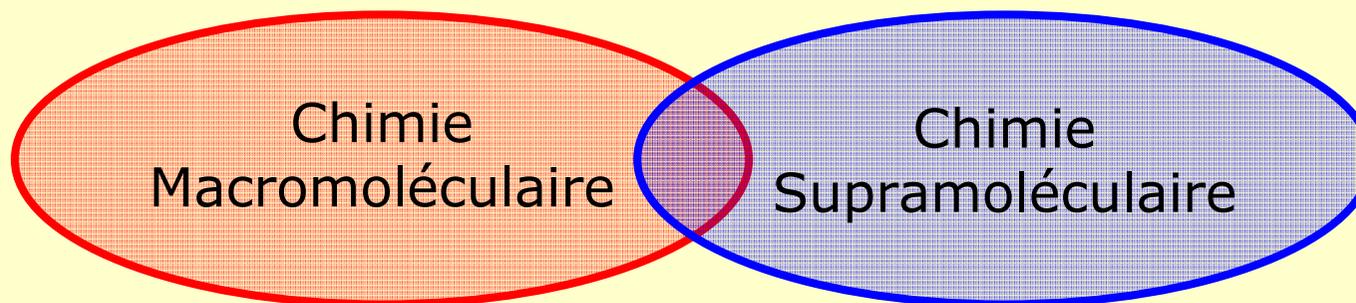
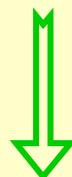


Equipe Polymères Supramoléculaires



contrôle de la structure (nm)



matériaux aux propriétés originales

Equipe Polymères Supramoléculaires

Laurent Bouteiller  
*directeur de recherche*

Thomas Pinault  
*doctorant*

Benjamin Isare  
*post-doc*



Fabien Périneau  
*doctorant*

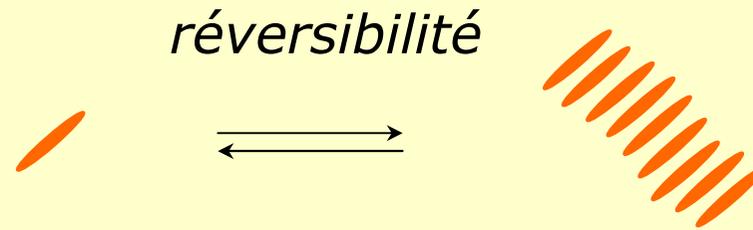
Sandrine Pensec  
*maître de conférence*

Emmanuelle Bugnet  
*post-doc*

Mathilde Bellot  
*doctorante*

# Assemblages de petites molécules

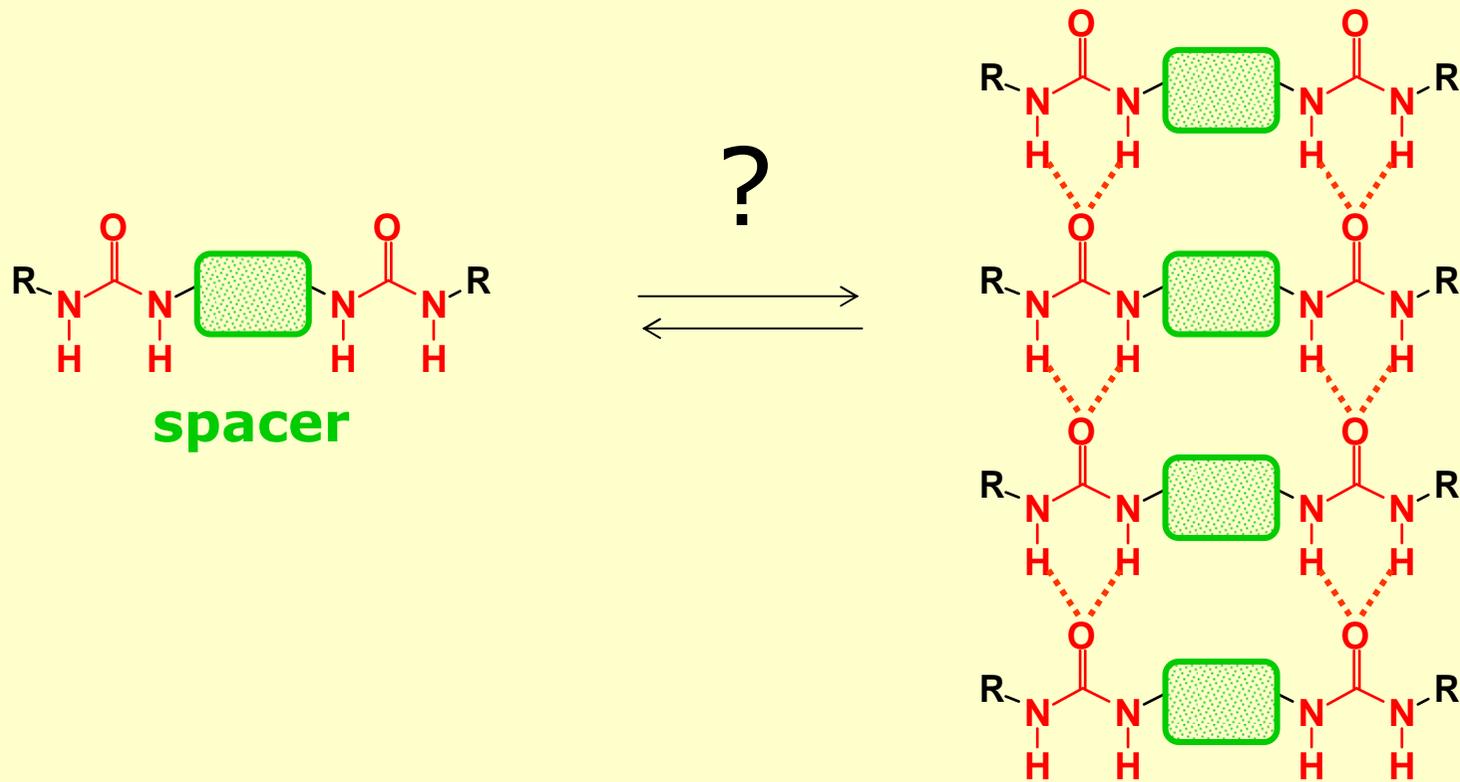
---



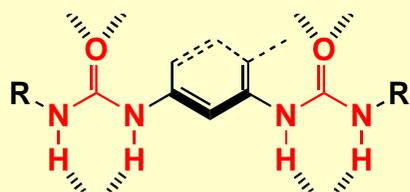
- Buts :
- explorer les analogies :  
polymères supramoléculaires / polymères  
filaments d'actine
  
  - exploiter les propriétés (gels ...)
  
  - interactions avec les surfaces (nano-structuration)

# Assemblages de petites molécules

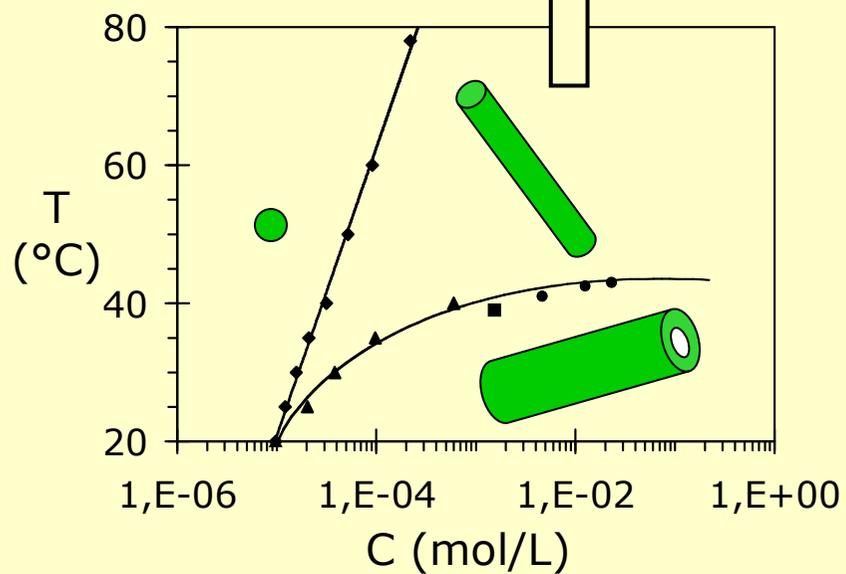
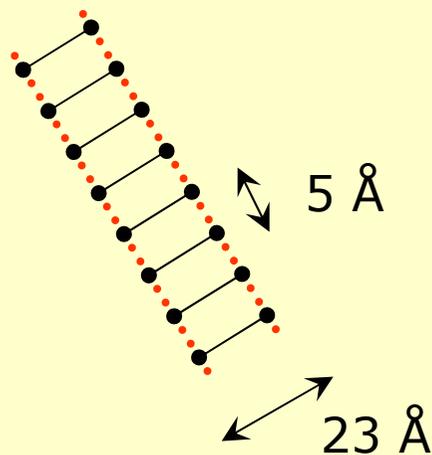
Bis-ureas:



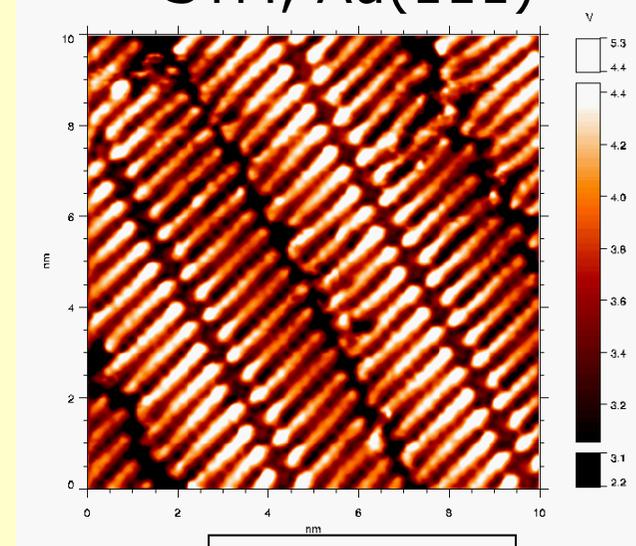
# Assemblages de petites molécules



toluène



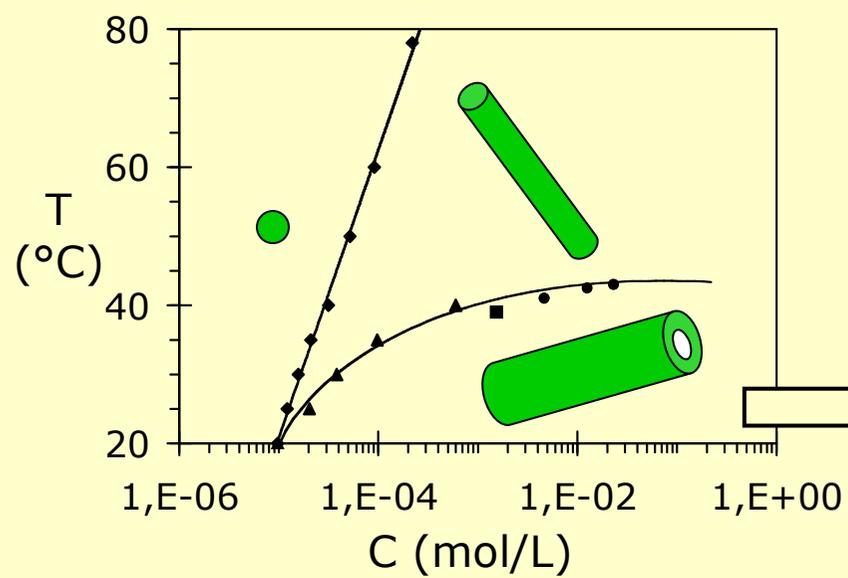
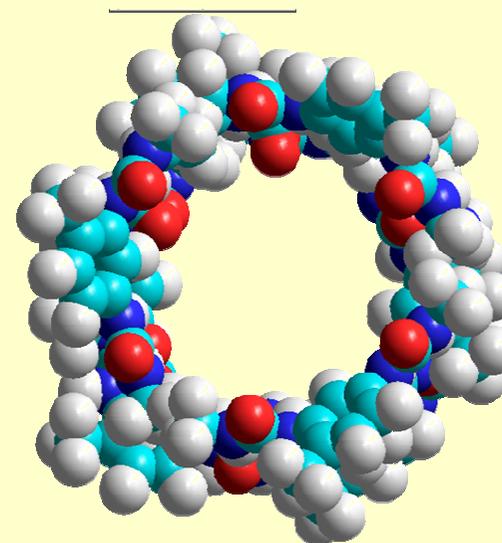
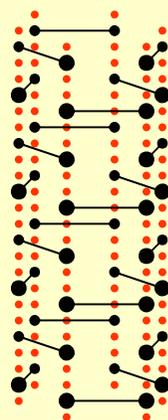
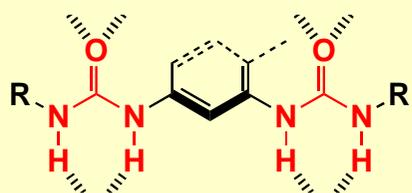
STM, Au(111)



10 \* 10 nm<sup>2</sup>

J. Am. Chem. Soc. **2003**, 125, 13148  
Phys. Rev. Lett. **2005**, 94, 066103  
J. Am. Chem. Soc. **2005**, 127, 8893

# Assemblages de petites molécules





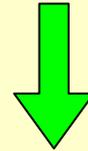


Emmanuelle Bugnet - *post-doc*

---

## Zéolithes plastiques

capture covalente des tubes



matériau solide poreux ( $\Phi < 1$  nm):

---

Collaborations :

*ANR blanc*

- Bruno Andrioletti, UMR 7611, UPMC
- Jean-Luc Bonardet, Flavien Guenneau,  
Marie-Anne Springuel-Huet, UMR 7142, UPMC

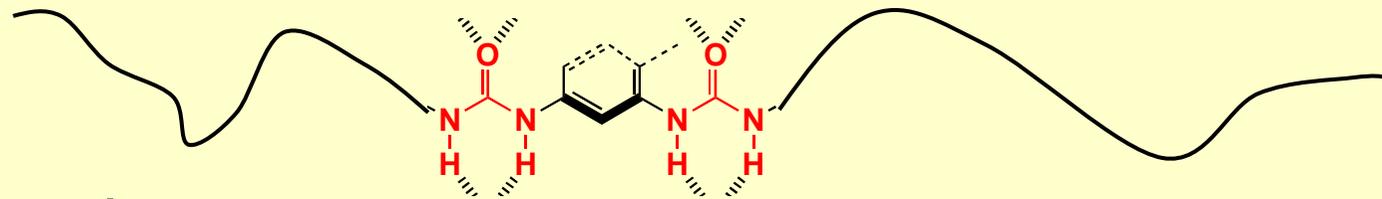




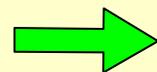
Audrey Guilleman - M2

---

## Matériaux supramoléculaires dynamiques



Elastomère  
(*polyisobutène*)



Bons adhésifs (acier, polyéthylène)

---

Collaborations : - Costantino Creton, ESPCI



Benjamin Isare - *post-doc*

---

Additifs pour bitume ...

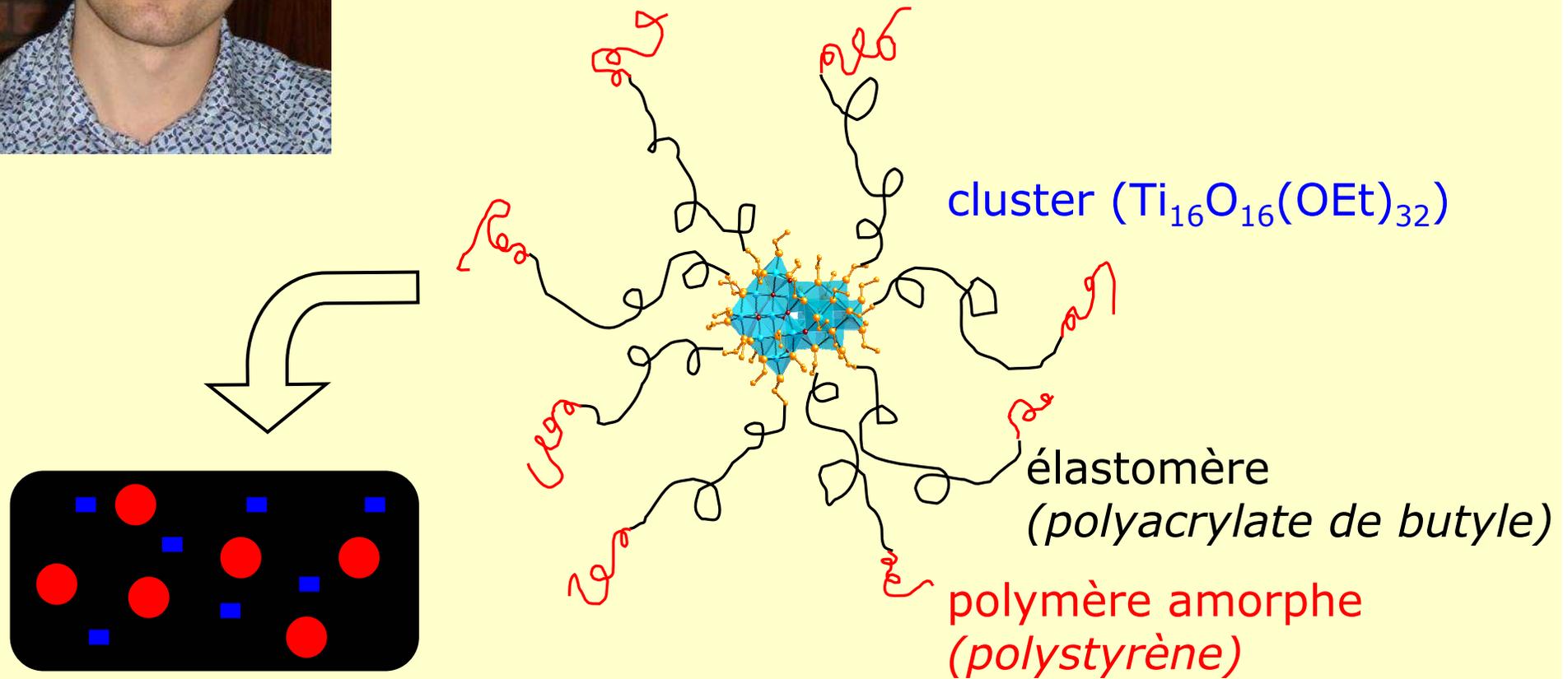
---

Collaboration : - TOTAL France



Fabien Périneau - *doctorant*

## Elastomères hybrides nanostructurés



Collaborations :

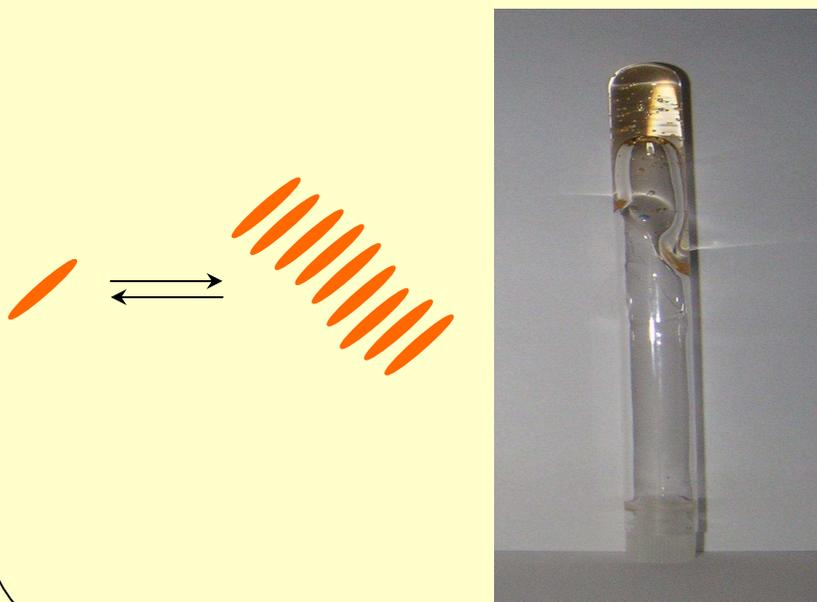
*ANR nano*

- Costantino Creton, ESPCI
- Laurence Rozes, UMR 7574, UPMC

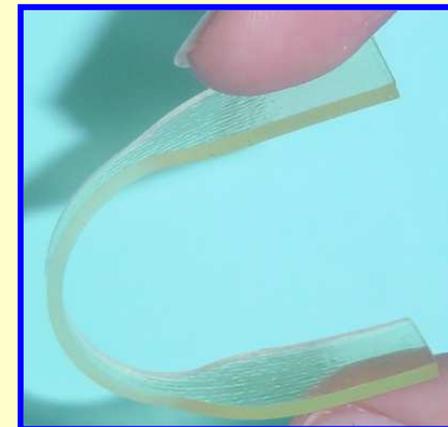
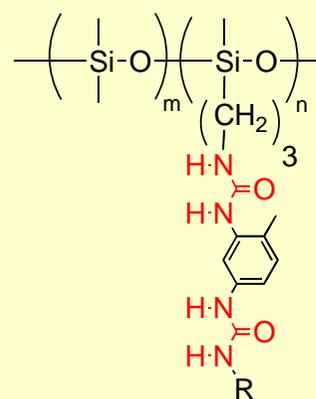
Equipe Polymères Supramoléculaires

Assemblages de ...

... petites molécules :



... macromolécules :



➔ Matériaux aux propriétés originales