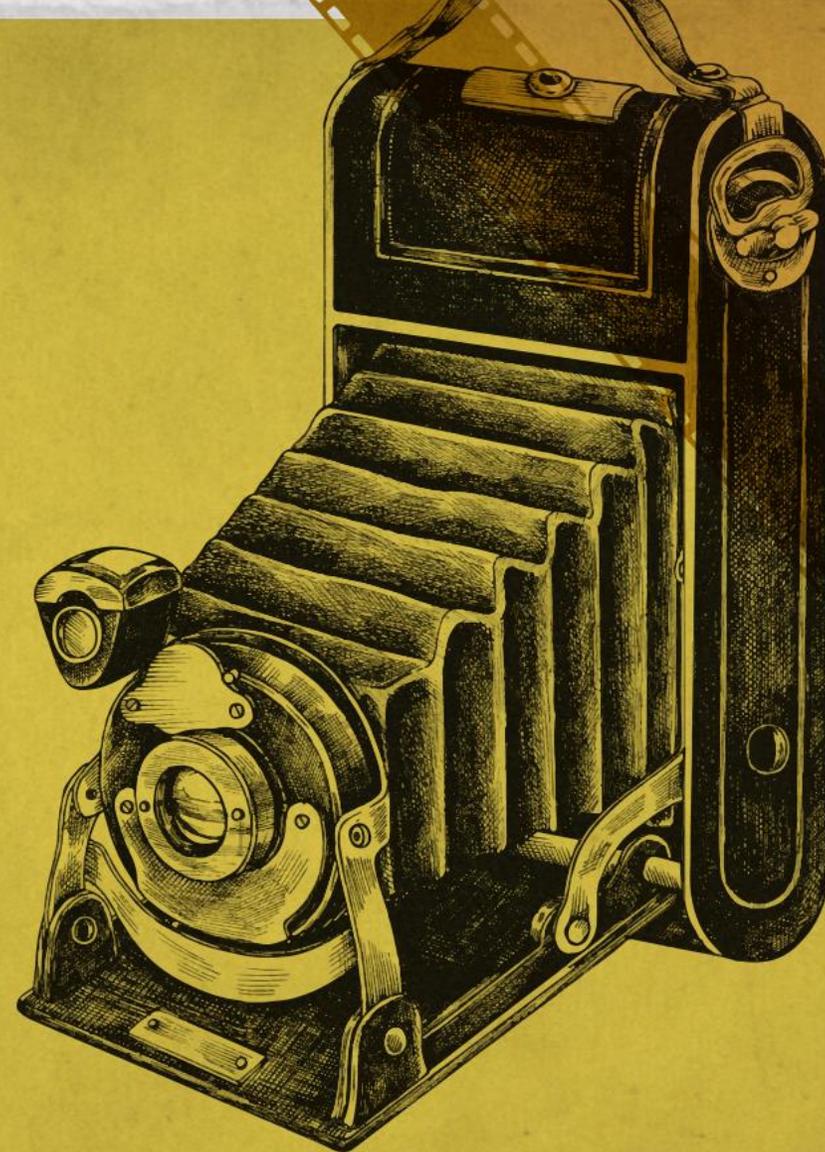
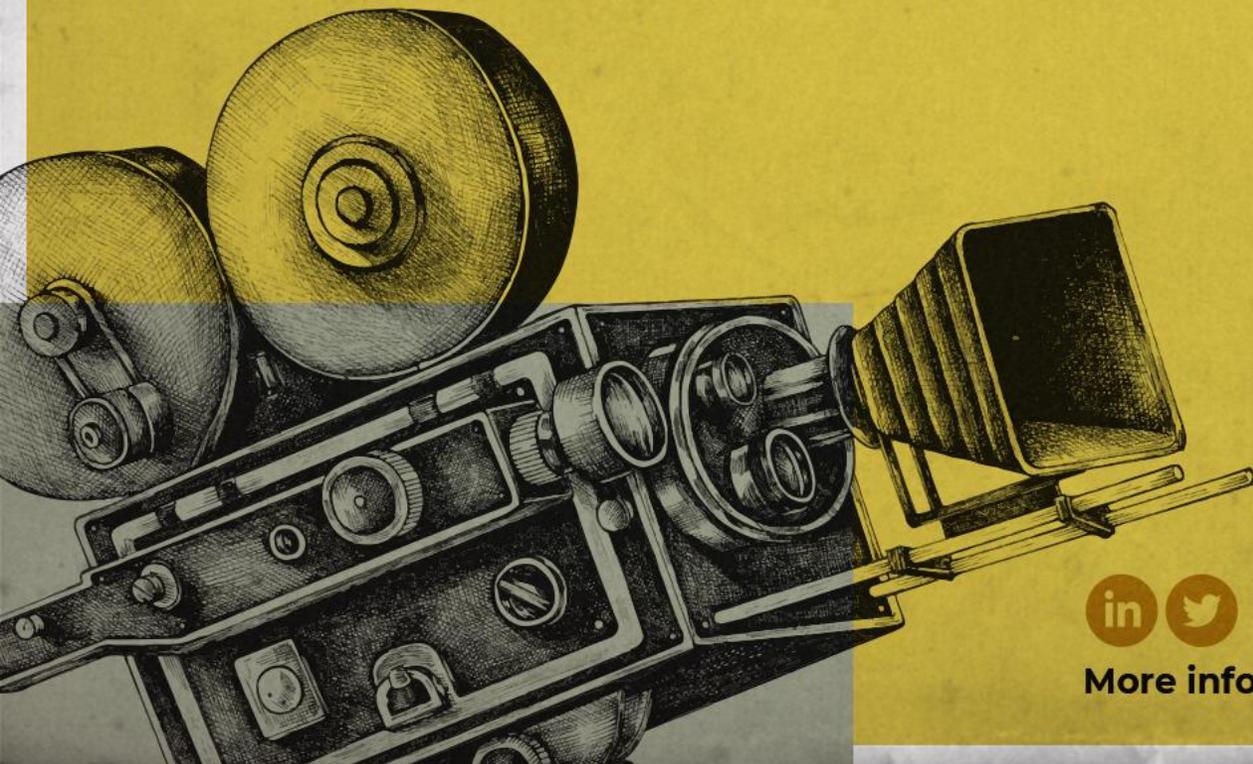


25TH MAY / 2022 ◊ VALENCIA, SPAIN

FINAL WORKSHOP

The NEMOSINE innovative
package for cultural
heritage preservation



More info at: nemosineproject.eu



NEMOSINE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 760801.



FINAL WORKSHOP:
The NEMOSINE innovative package and solutions for 20th century
cultural heritage preservation.



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High loading porous solids cellulose based membranes

Pierre TIGNOL

Centre de Recherche sur la Conservation (CRC)

Institut des Matériaux Poreux (IMAP)

Centre National de la Recherche Scientifique
(CNRS)



ESPCI PARIS



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DES MATÉRIAUX
POREUX DE PARIS

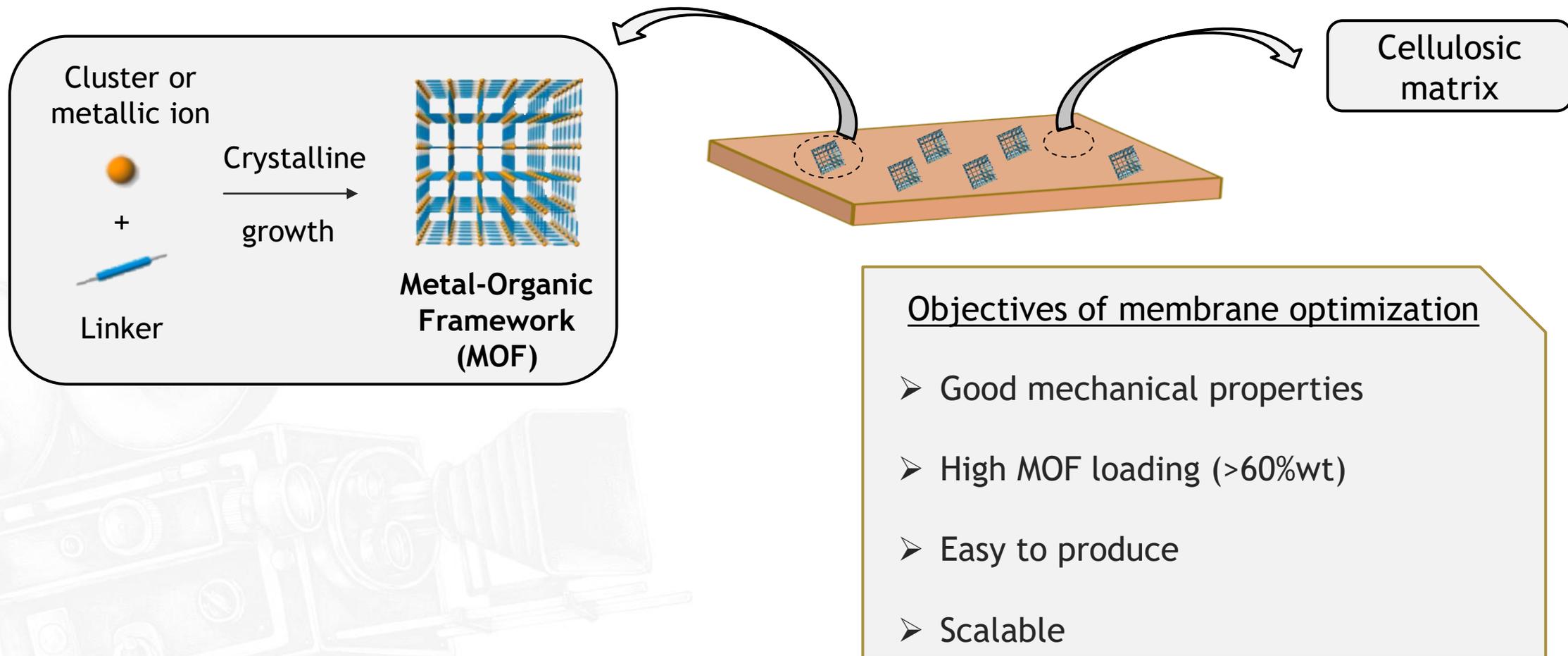


PSL
UNIVERSITÉ PARIS

CRC
CENTRE
DE RECHERCHE
SUR LA CONSERVATION



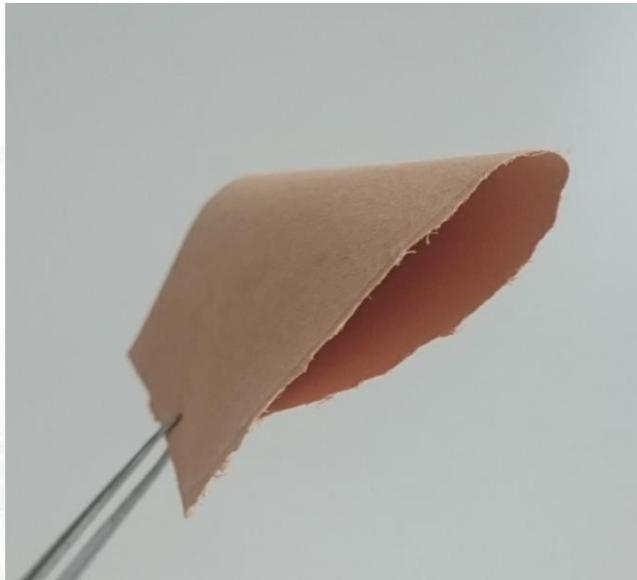
Specifications of the membrane



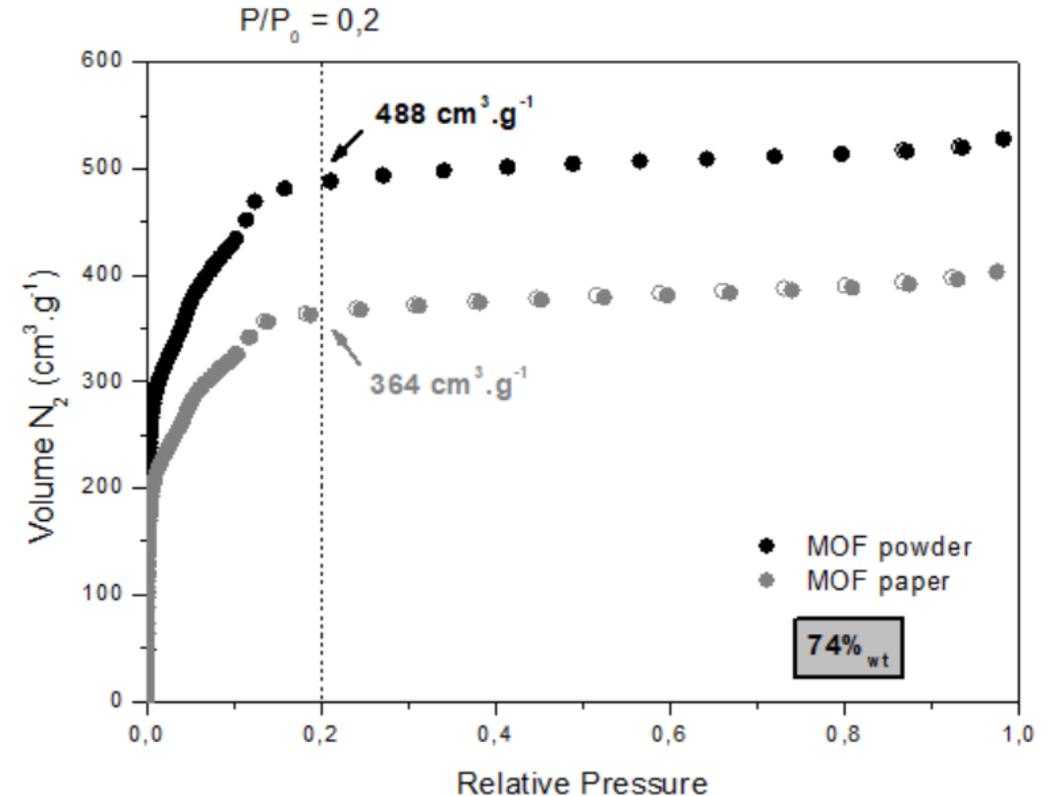
- Objectives of membrane optimization
- Good mechanical properties
 - High MOF loading (>60%wt)
 - Easy to produce
 - Scalable

Membrane paper containing up to 75%wt MOF

Picture of the membrane showing its good mechanical properties

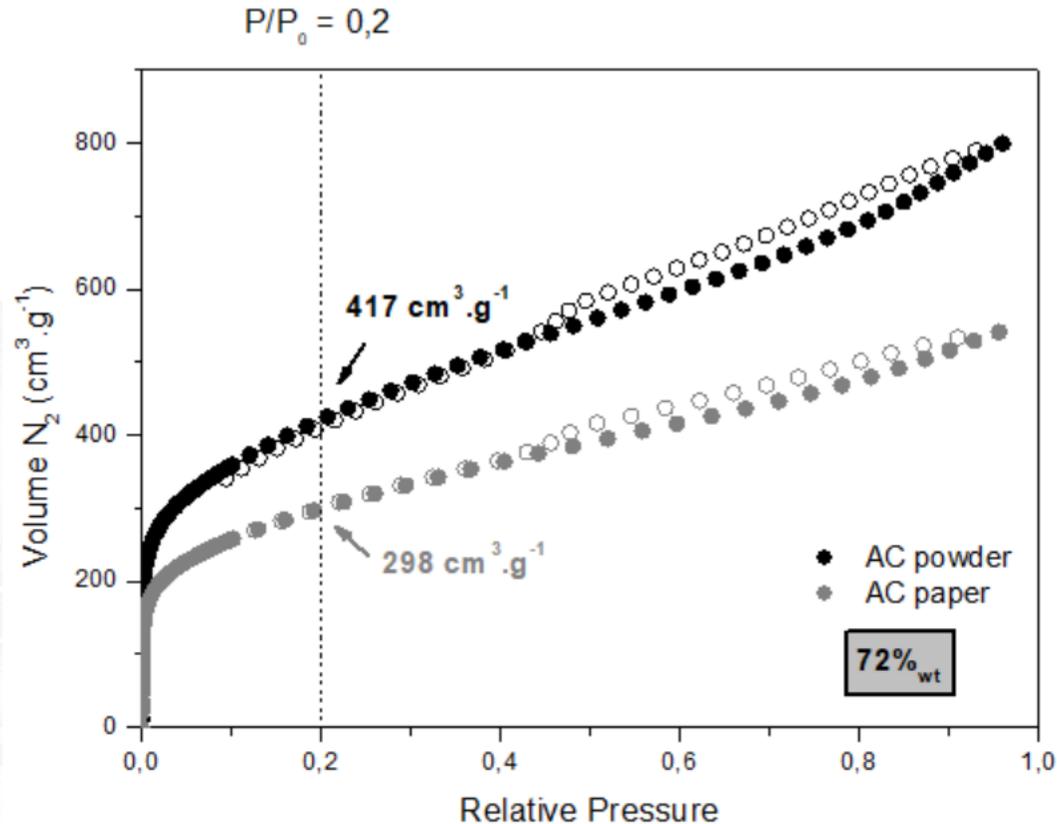


Sorptions properties of the MOF powder and membrane : N₂ reversible isotherm

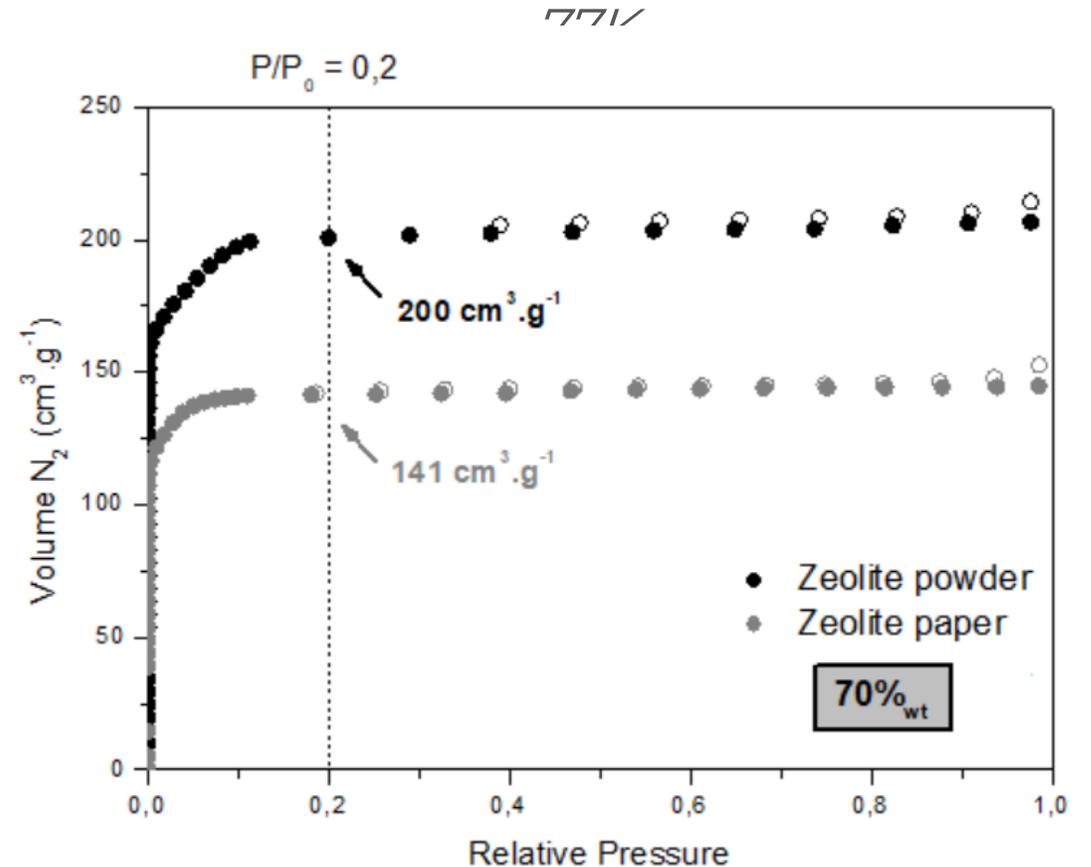


Membrane paper made with other sorbents

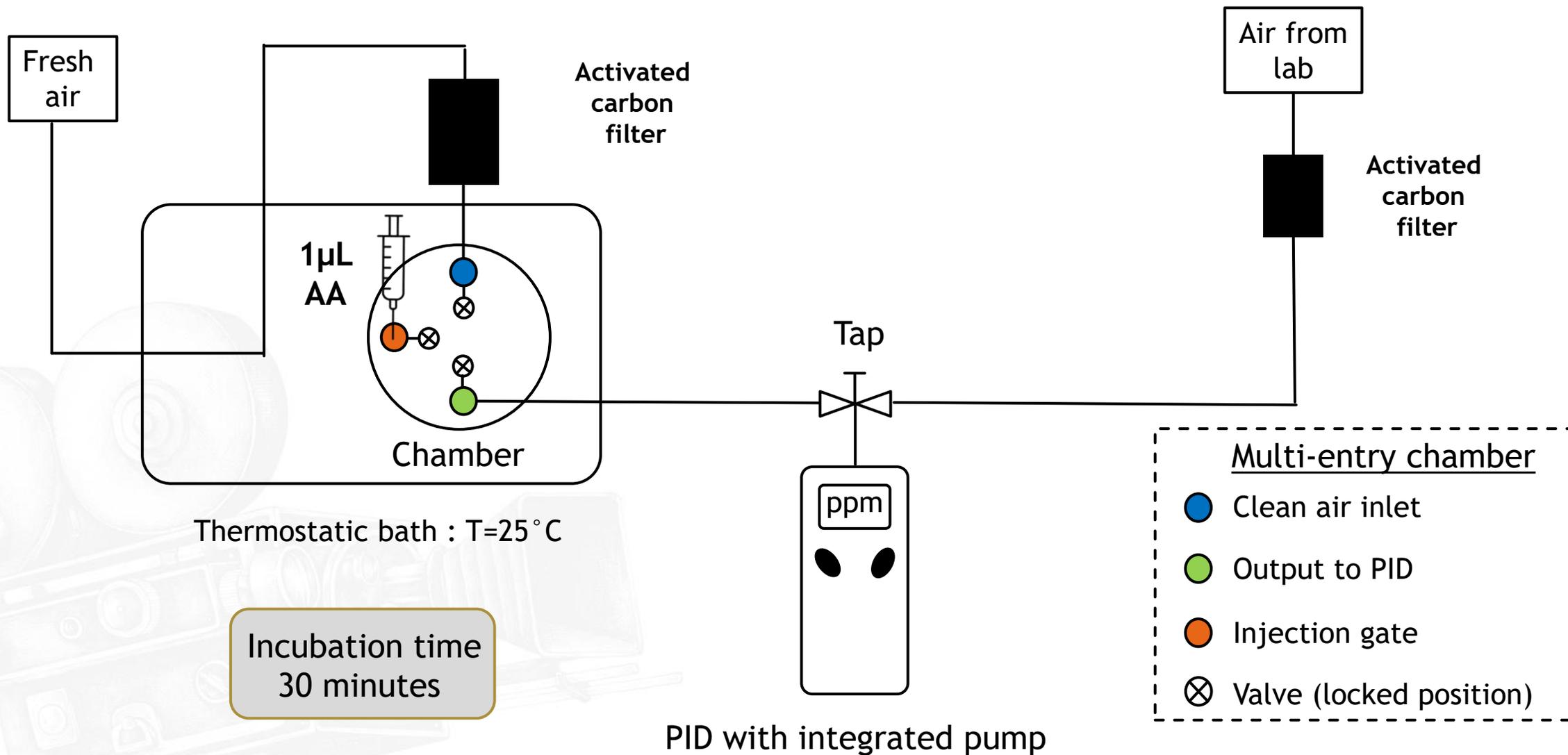
N₂ reversible isotherm of activated carbon and its corresponding membrane



N₂ reversible isotherm of zeolite and its corresponding membrane obtained at



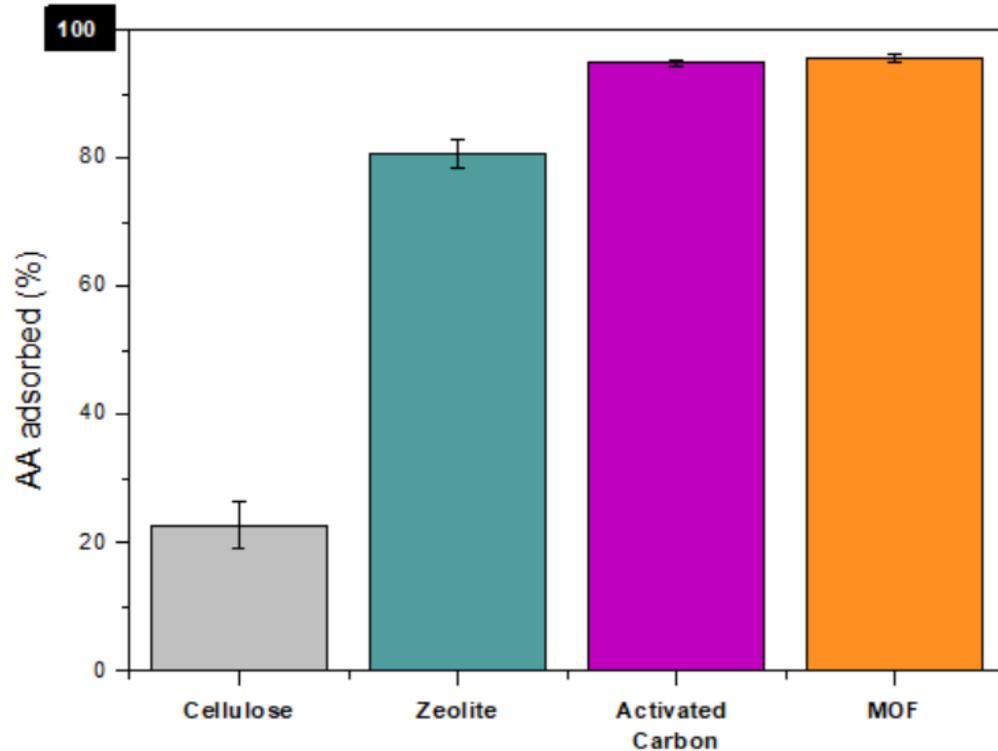
Set-up made for testing AA capture



AA capture results

Comparison of different composite sorbent

for AA capture



Vapors emitted from composites after AA capture

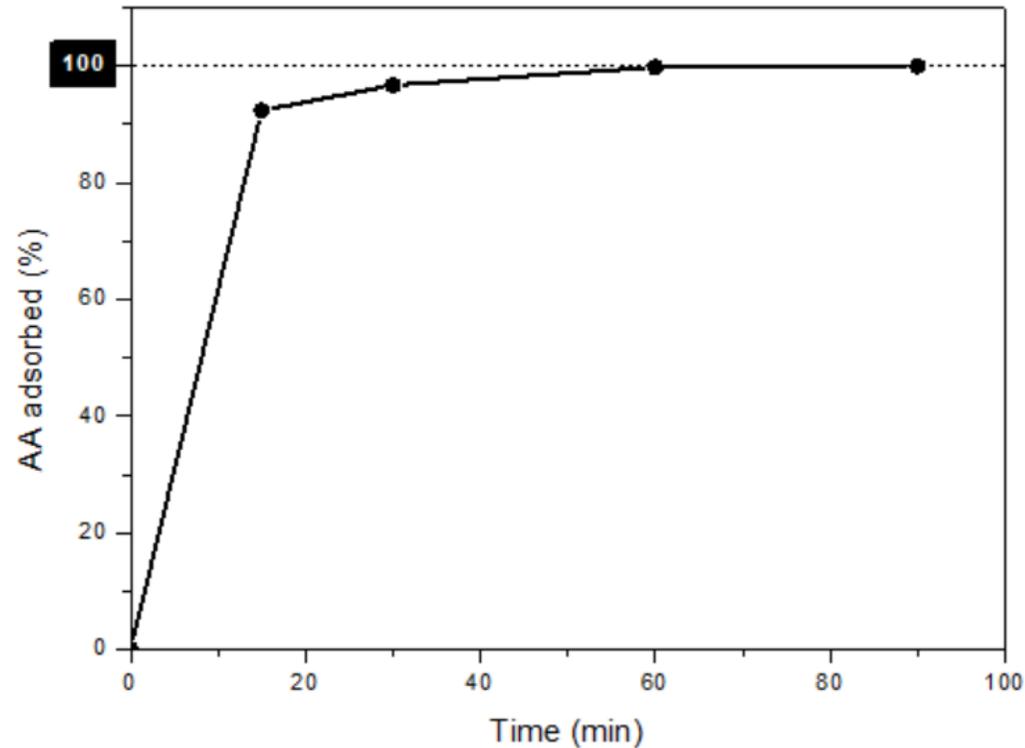


Bottle containing passive dosi-tube for AA detection

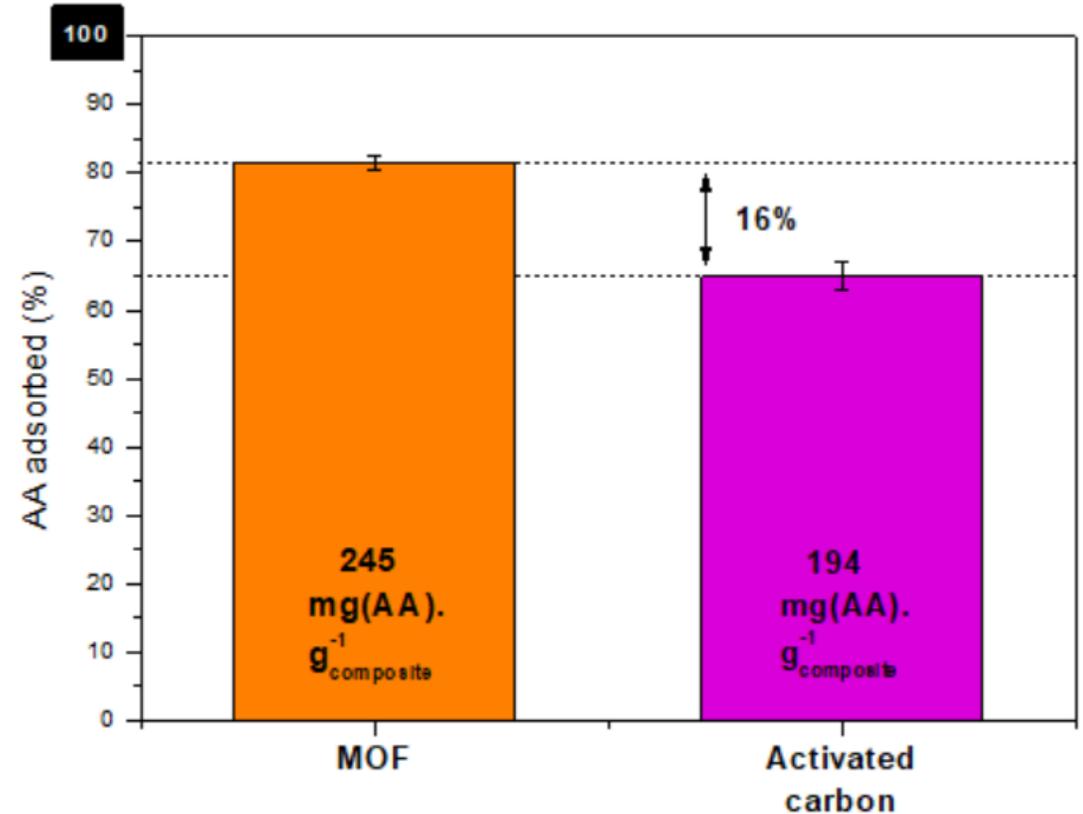
Composite	AA concentration (ppm)
MOF	0
Zeolite	>5
AC	0,75

AA capture results

*AA adsorbed by 50mg MOF
 increasing time
 incubation in the chamber*



*AA adsorbed by MOF and AC composites
 at saturation level (m=3,5mg)*



A special thanks goes to :

My supervisors :

- Prof. Bertrand Lavédrine (CRC, MNHN)
- Dr. Anne-Laurence Dupont (CRC, MNHN)
- Dr. Christian Serre (IMAP, ESPCI/ENS)
- Dr. Vanessa Pimenta (IMAP, ESPCI/ENS)

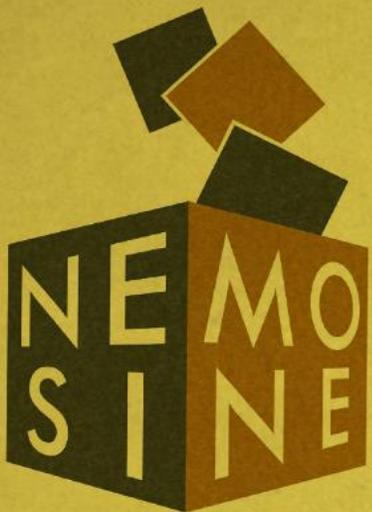


Aimplas collaborators for hosting this workshop



PNO Innovation SL collaborators for organizing this event

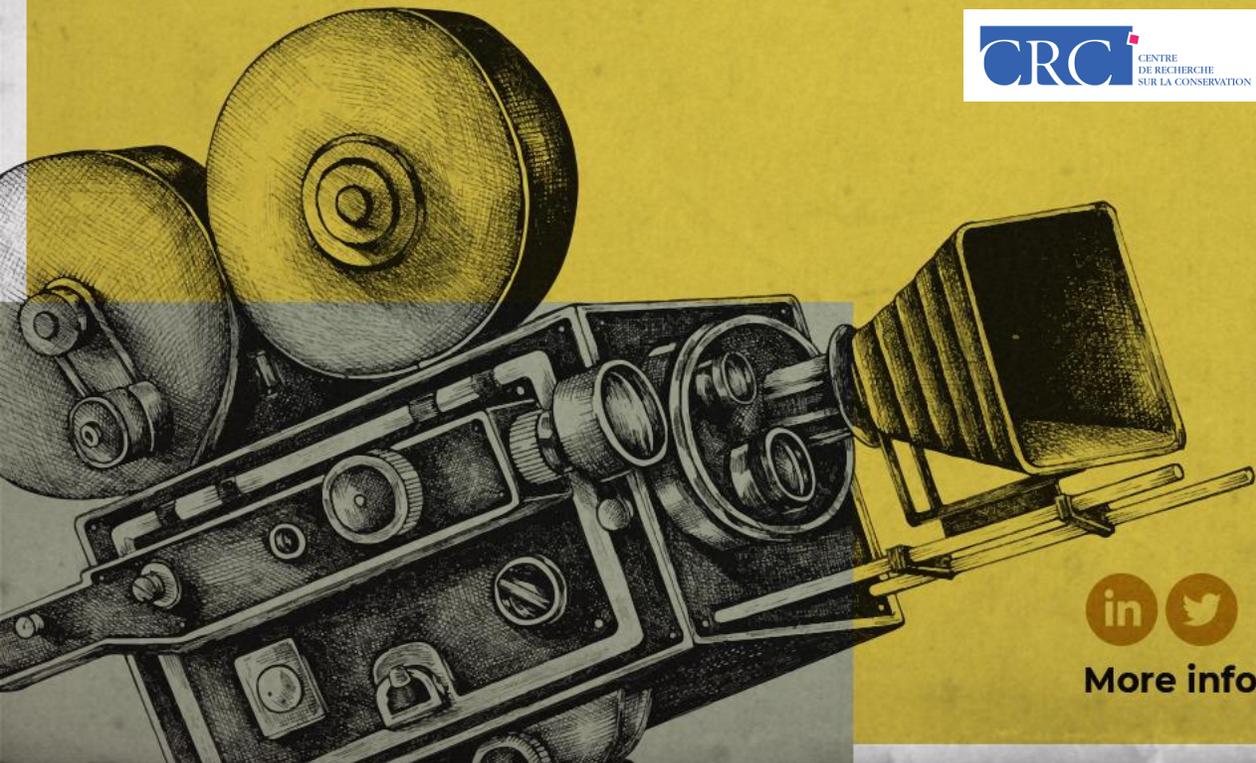
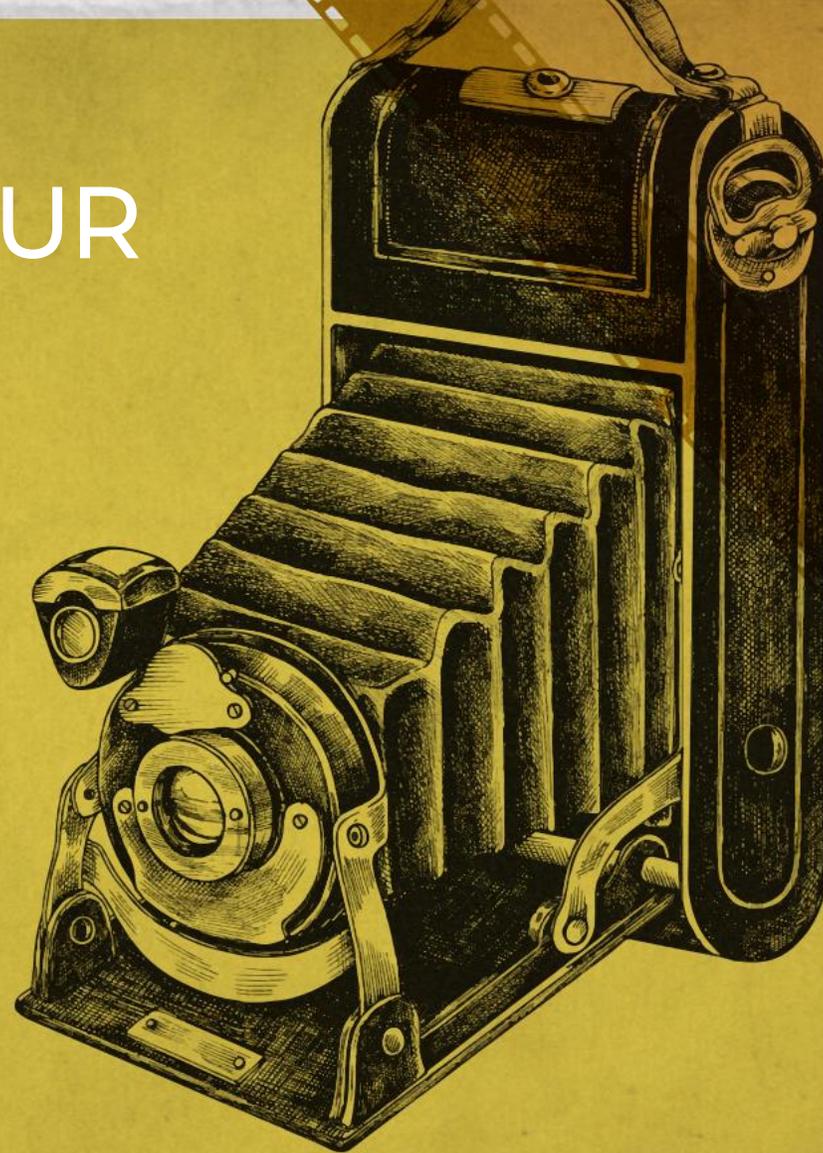




THANKS FOR YOUR ATTENTION

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More info at: nemosineproject.eu



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