

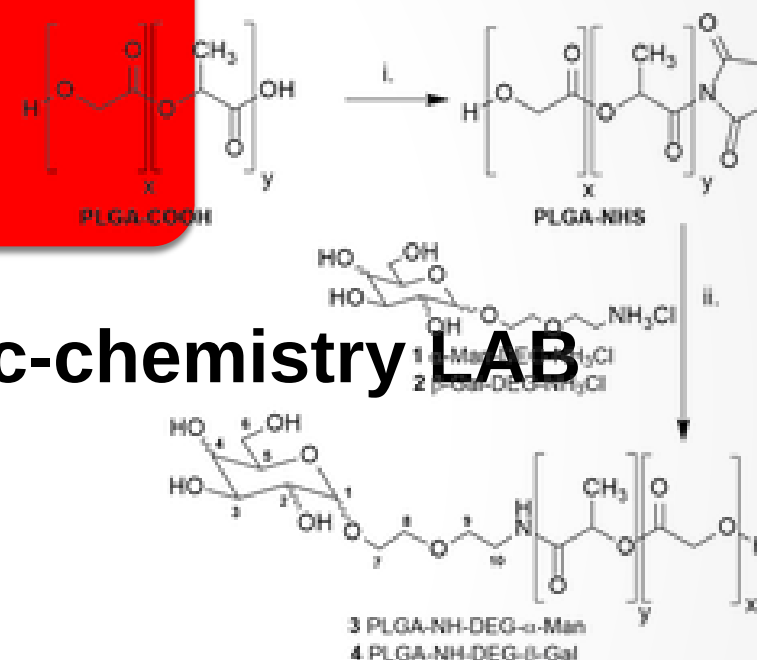
PI Barbara La Ferla

<https://laferla-lab.weebly.com/>

barbara.laferla@unimib.it

Uff. U3/4015 - Lab. U3/4014

02-6448.3421 - .3419



Glyco-Nanotechnology / Organic-chemistry LAB

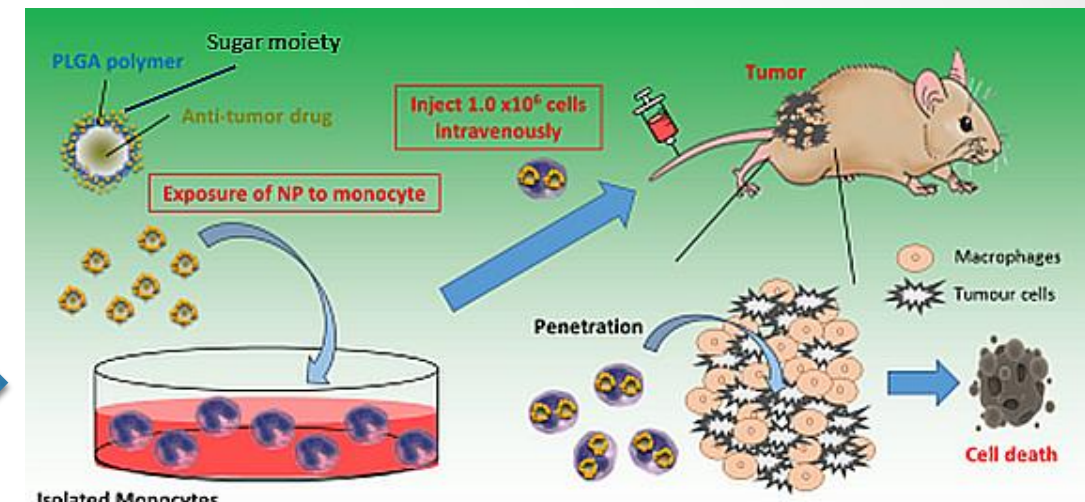
**Main characteristics:
Organic/Medicinal Chemistry**

-) Design and synthesis of small molecules for their application in the biomedical field for therapy/diagnosis**
-) Synthesis and functionalization of Nanoparticles, as new generation Smart Materials for drug delivery**

Synthesis and functionalization of Nanoparticles

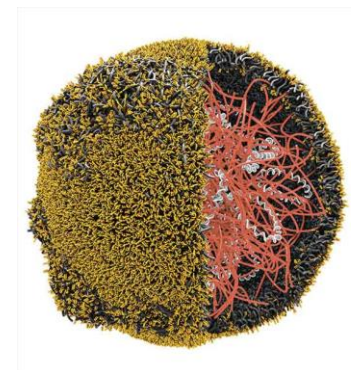
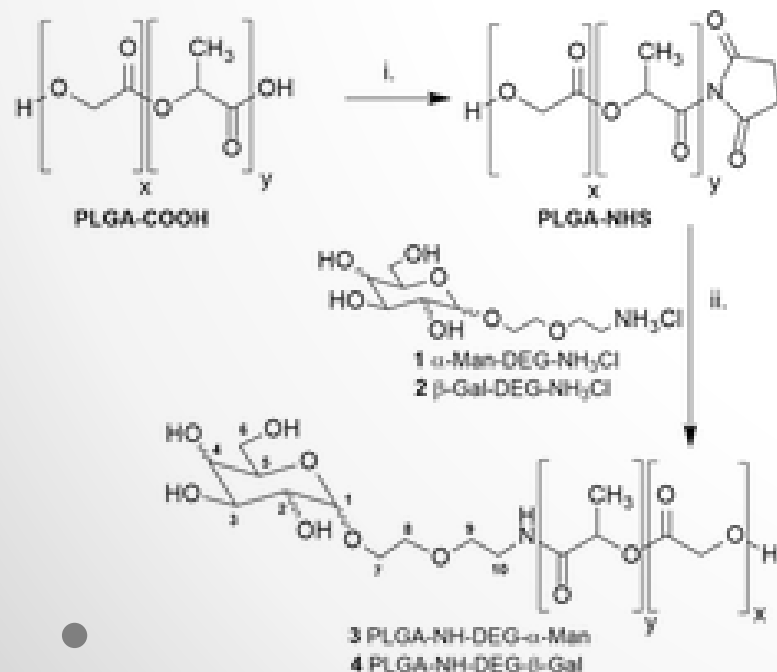
Innovative Anti-tumoral approach: Live-cell drug delivery (LCDL) strategy

Exploit host immune cells as Trojan Horse to deliver chemotherapy agents to solid tumors.



Cell loading and in vivo delivery

Synthesis of functionalized polymers



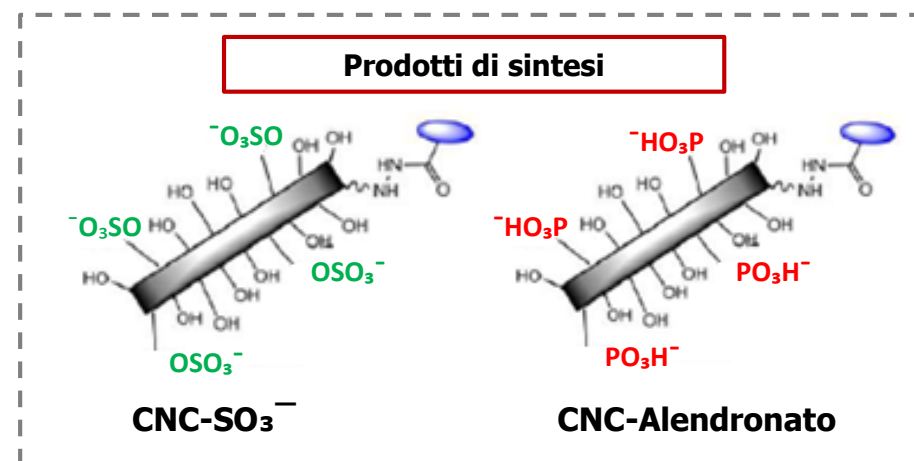
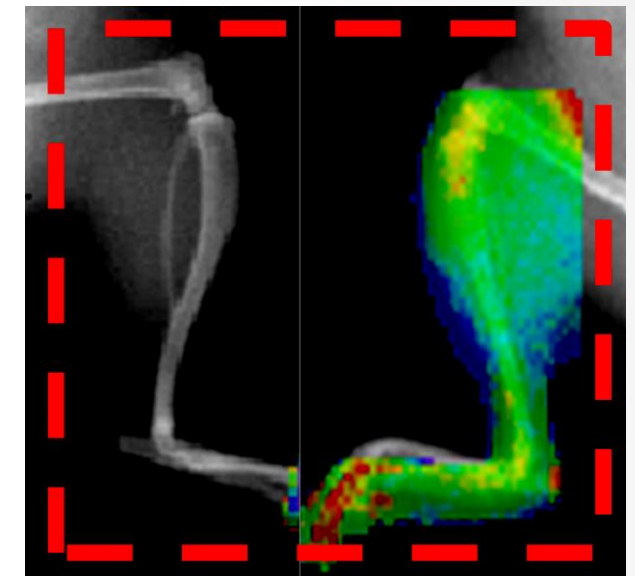
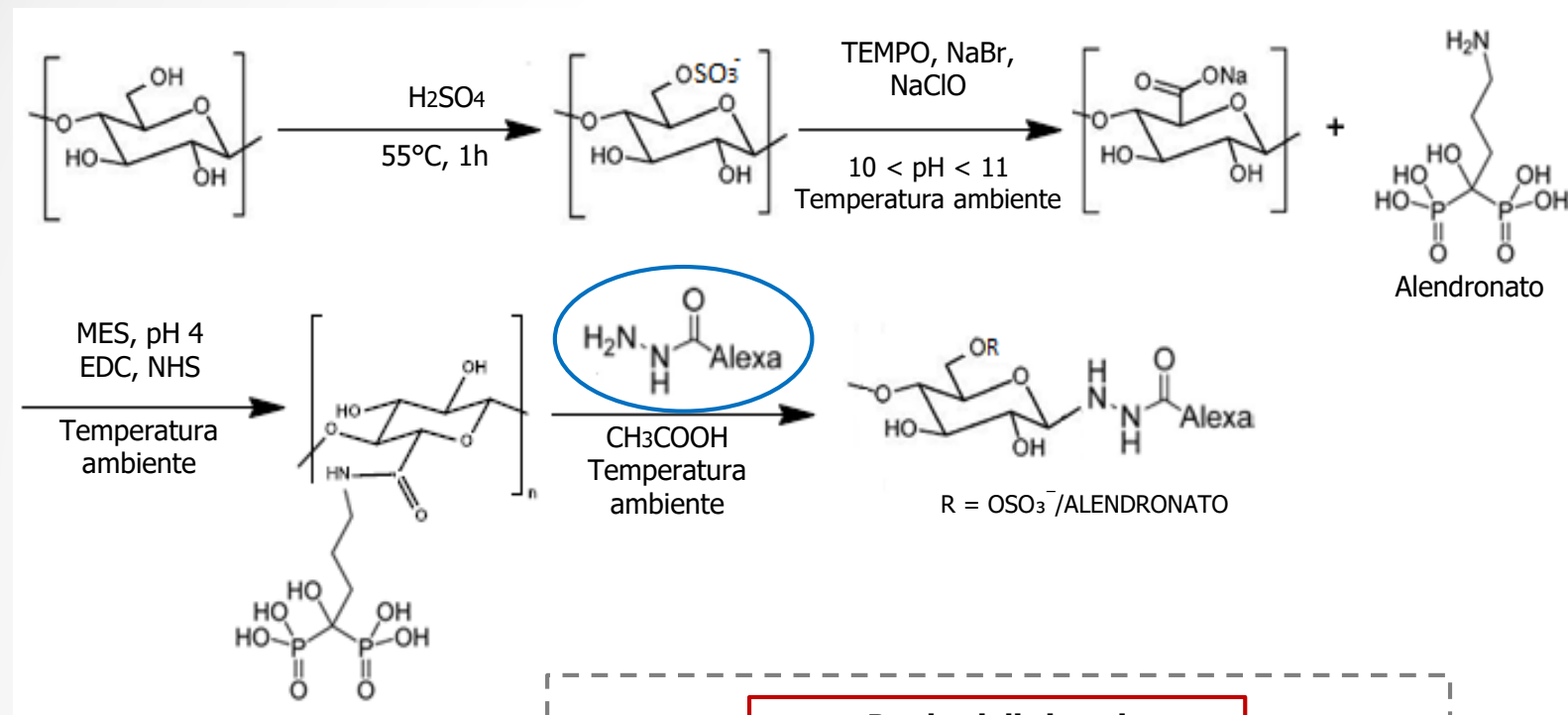
Nanoparticle assemblage

Drug conjugated/encapsulated
Fluorofore-diagnostic agent

COLLABORATION: Ospedale Humanitas (1 position)

ref: A. Maeda, et al. 2018 Keystone Symposia Conference: Cancer Immunotherapy March 23 - March 27, 2018, Montreal, Canada.
A Palmioli, B. La Ferla (2018) *Organic Letters* 20(12), 3509-3512.

Functionalization of Cellulose Nanocrystals for Bone Targeting



COLLABORATIONS: Dr Luca Zoia (DISAT)

Istituto MARIO NEGRI

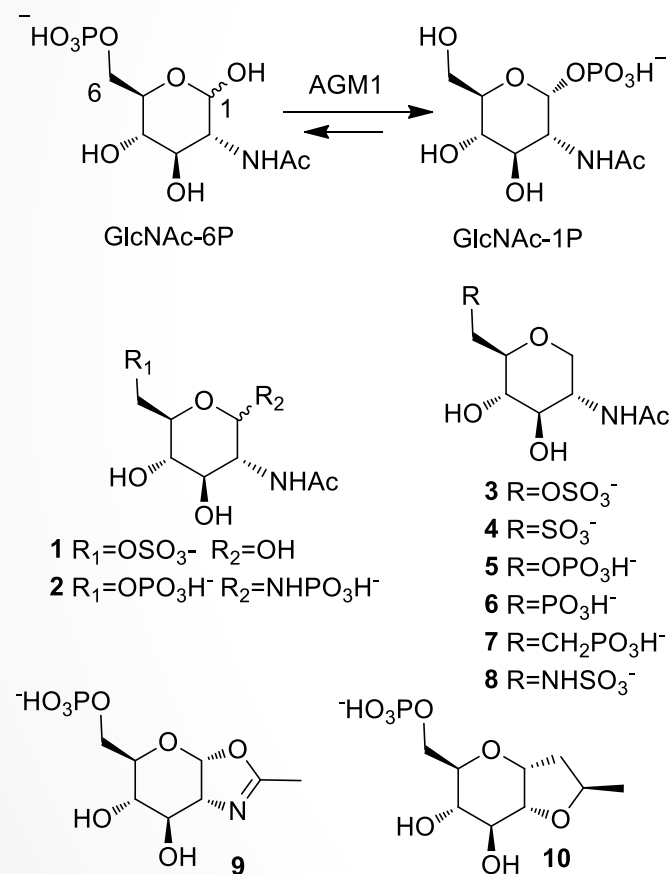
Ref:

L. Colombo, L. Zoia, et al. and **B. La Ferla***. *Biomacromolecules* **2015**, 16, 2862-2871.

G. D'Orazio, et al and **B. La Ferla.*** *J. Material Chem. B.*, **2017**, 5, 7018-7020.

Design and synthesis of small molecules for their application in the biomedical field for therapy/diagnosys

Synthesis of enzymatic inhibitors as anticancer Agents



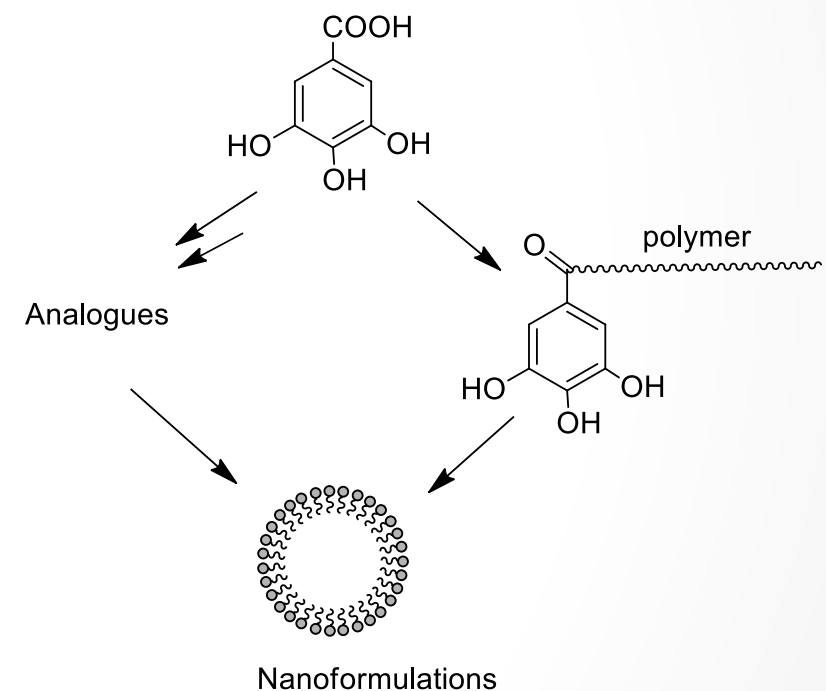
Collaboration: Dr Chiaradonna (BTBS)

Ref.

F. Ricciardiello, et al. *Cell death and disease*, **2018**, 9(3), 377.

Paiotta et al. and **B. La Ferla*** *Eur. J. Org. Chem* **2018**, 1946-1952.

Nano-formulated derivatives of gallic acid as neuroprotective agents (C. elegans model)



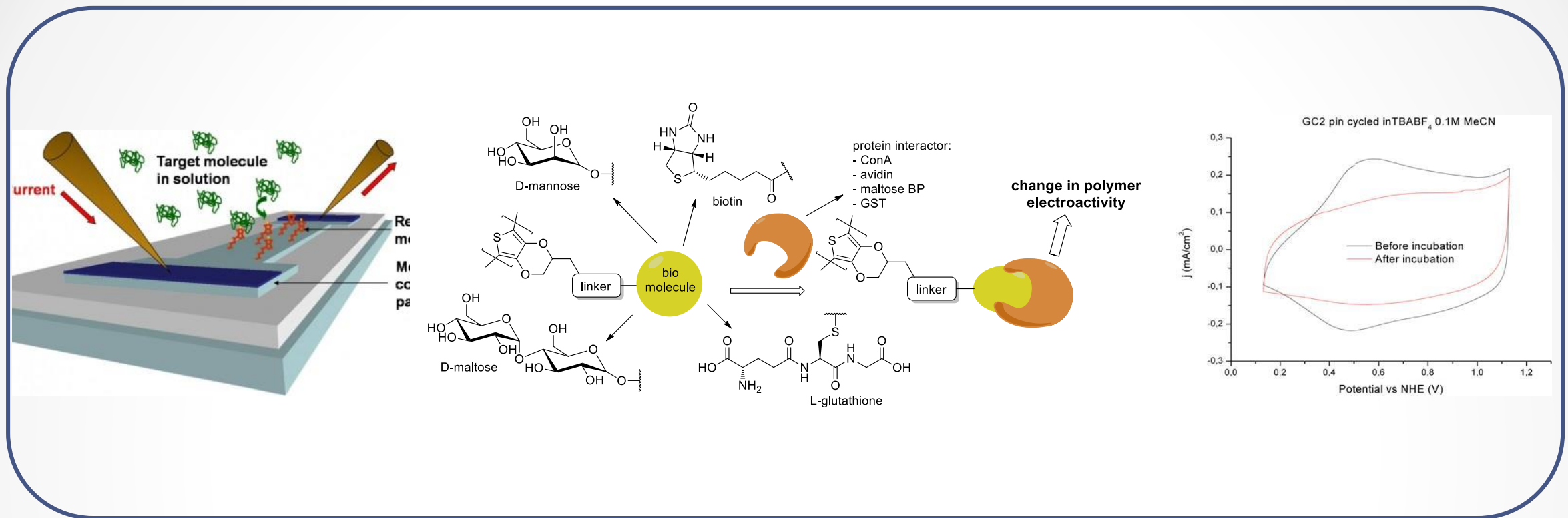
Collaboration: Dr.ssa Regonesi (BTBS)

Ref.

Airoidi, C., La Ferla, B., *Curr. Med Chem.* in press

Visentin, C. et al. (2017) *Hum Mol Genet.* 26:3271-3284

Novel Bio-sensors for diagnostic devices



New synthetic methods for the preparation of Bio-interactor (sensor ligand)
Functionalized EDOT monomers and development of PEDOT based biosensors.

- protein detection
- Bacteria detection

Collaboration: Dr Barbara Vercelli CNR (polymerization)
Prof Alessandra Polissi (Microbiologist) for bacteria sensing

Ref.

B. La Ferla, Vercelli. *Electroanalysis*, **2018**, 30(5), 798-802.

M. Sassi et al. *Organic lett.*, **2013**, 15 (14), 3502-3505.

Barbara La Ferla

<https://laferla-lab.weebly.com/>

barbara.laferla@unimib.it

Ufficio U3 piano IV stanza 4015

Tel 02-6448.3421 - .3419

