Physical Pharmacy Laboratory

Lab Chief: Milena Lillina Sorrenti, Laura Catenacci

Principal departmental collaborations: Cell Delivery Systems Lab
Nanomedicine and Theranostics Lab

Lines of research:

Physical-chemical characterization of solid-state of actives, excipients and polymeric materials. Isolation of crystalline solid phases by different techniques such as solvent evaporation, solvent drop grinding, vapour diffusion, co-crystallization. Structural and refinement studies on single crystal in collaboration with the laboratory of Supramolecular Chemistry supervised by Prof. Mino R. Caira, University of Cape Town (South Africa).

Physical-chemical characterization of drugs and their complexes with natural and derivative cyclodextrins aimed at improving the unfavourable physical-chemical and biopharmaceutical properties of actives.

Physical-chemical characterization of innovative formulations for targeting delivery, micro and nanoparticles.

Experience in using analytical techniques, in particular Differential Scanning Calorimetry, Thermogravimetric Analysis, Hot Stage Microscopy, Infrared Spectroscopy.

Other informations:[selected publications]

M.Sorrenti, L. Catenacci, D.L.Cruickshank, M.R.Caira
doi: 10.1002/jps.23660

L. Catenacci, M. Sorrenti, G. Bruni, M.C. Bonferoni, G. Sandri, G. Bettinetti
doi: 10.1007/s10973-012-2709-4

L. Trollope, D. L. Cruickshank, B. Noonan, A. Susan, M. Sorrenti, L. Catenacci; M. R. Caira
doi: 10.3762/bjoc.10.331

L. Catenacci, D. Mandracchia, M. Sorrenti, L. Colombo, M. Serra, G. Tripodo
In-solution structural considerations by 1H NMR and solid-state thermal properties of inulin-d-α-tocopherol succinate (INVITE) micelles as drug delivery systems for hydrophobic drugs Macromolecular Chemistry and Physics, 215, 2084-2096 (2014).
doi: 10.1002/macp.201400342

L. Catenacci, M. Sorrenti, S. Perteghella, D. Mandracchia, M. L. Torre, A. Trapani, C. Milanese, G. Tripodo
doi.org/10.1016/j.ijpharm.2020.119861