	Experiment title: Supramolecular structure and phase behavior of self-assembled complexes of PEGylated lipids, DNA and bivalent metal cations	**Experiment number**: SC-2884
Beamline: ID02	**Date of experiment**: from: 02 July 2010 to:06 July 2010	**Date of report**: 25 February 2016
Shifts: 9	**Local contact(s)**: Manuel Fernandez-martinez	*Received at ESRF:*

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Report:

The experimental results have been published in the paper

G. Angelini , M. Pisani, G. Mobbili, M. Marini, C. Gasbarri
"Neutral liposomes containing crown ether-lipids as potential DNA vectors"
Biochim. Biophys. Acta, 1828, 2506–2512 (**2013**)

whose abstract is reported below

Three crown ether derivatives, 1,2-O-dioleoyl-3-O-{2-[(12-crown-4)methoxy]ethyl}-sn-glycerol (12C4L),1,2-O-dioleoyl-3-O-{2-[(15-crown-5)methoxy]ethyl}-sn-glycerol (15C5L) and 2,3-naphtho-15-crown-5 (NAP5),have been incorporated into 1-palmitoyl-2-oleoyl-phosphatydilcholine (POPC) liposomes. The size of the crown ether and the lipophilic moiety of 12C4L, 15C5L and NAP5 influence the stability and the properties of the extruded POPC liposomes determined at 25 °C in buffered aqueous solution at pH 7.4. The investigated liposomes are zwitterionic for POPC headgroups but can be turned into cationic aggregates in the presence of divalent cations.

The capability of these systems to complex DNA has been demonstrated by SAXS experiments.