Glucose-decorated carbosilane dendrimers interacting with a model cell membrane, studied by means of the spin-probe EPR technique

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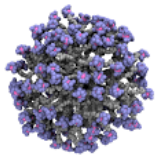

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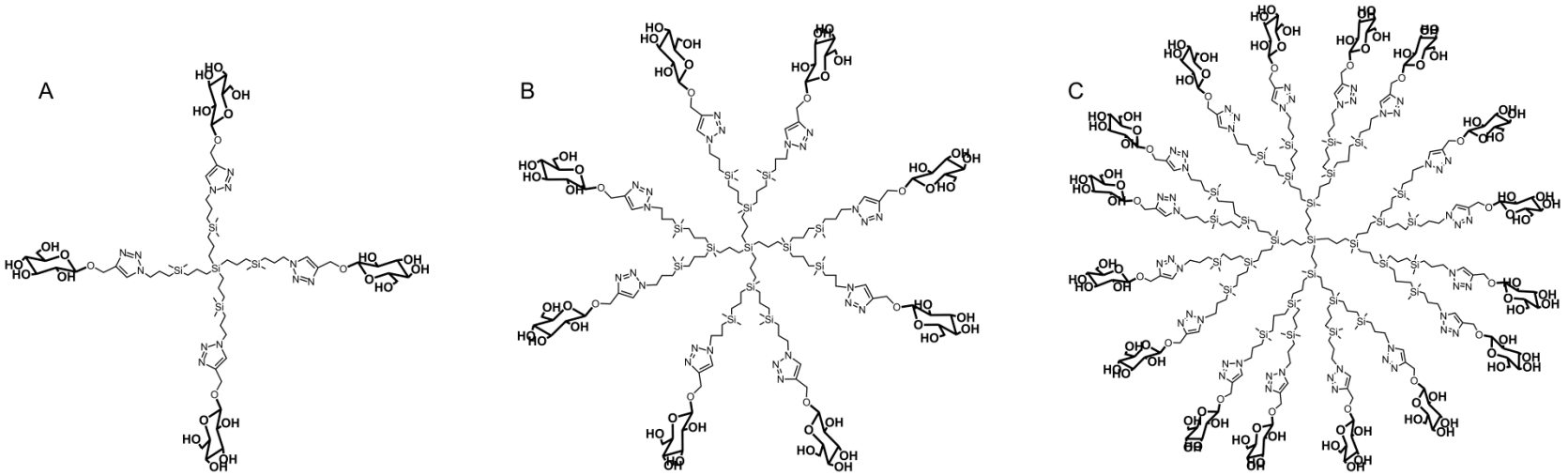
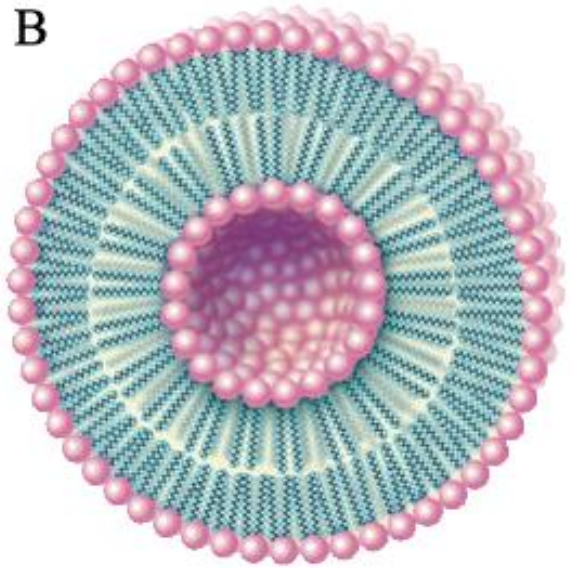
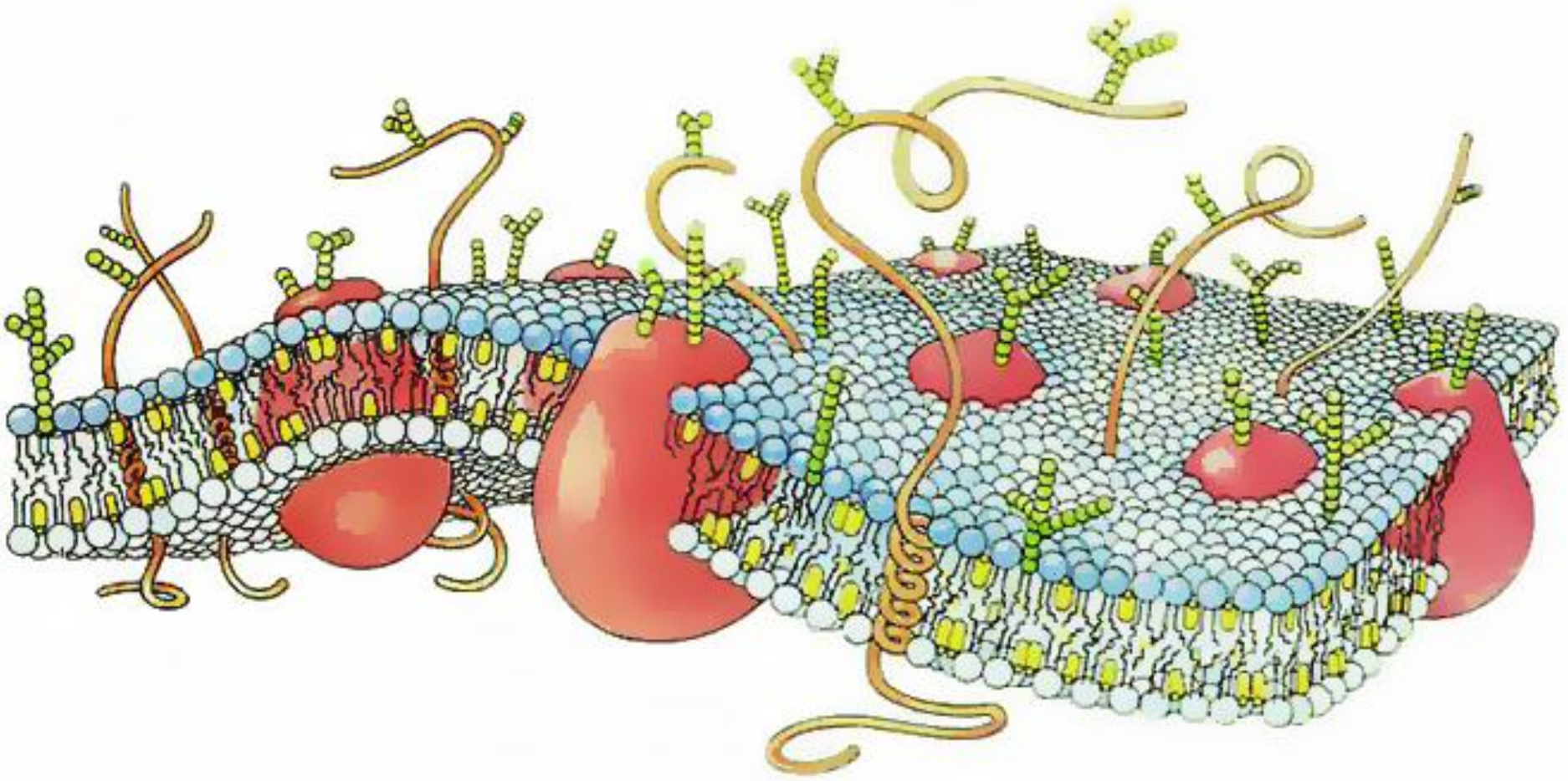
dendrimers



liposomes



The aim of work



Electron **P**aramagnetic **R**esonance spectroscpy

is a spectroscopic method that allows one to obtain information on the structure and dynamics of systems with unpaired electrons (paramagnetic systems).

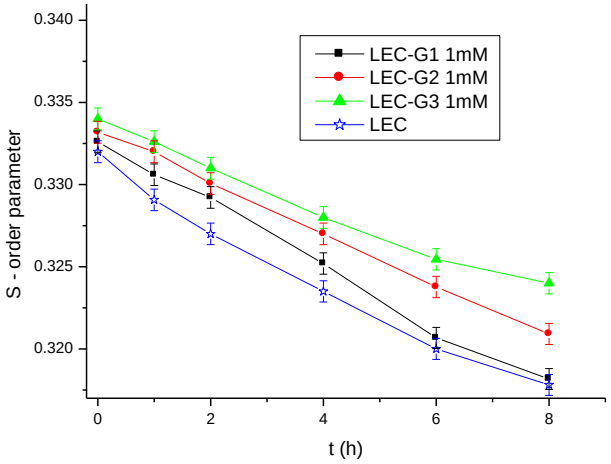
Probes used: 5DSA and CAT12

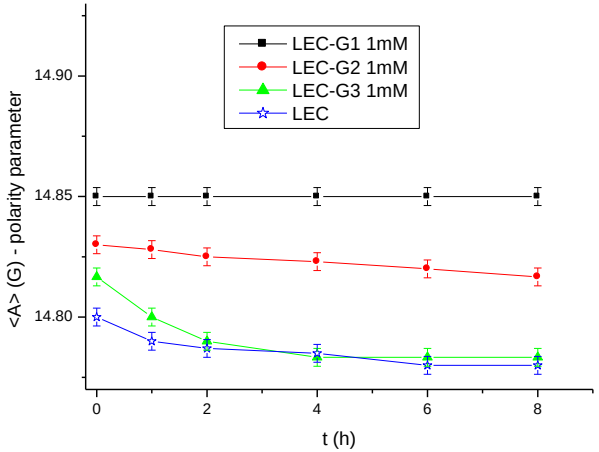
Liposomes: prepared from the mixture of phosphatidylcholine by extrusion method

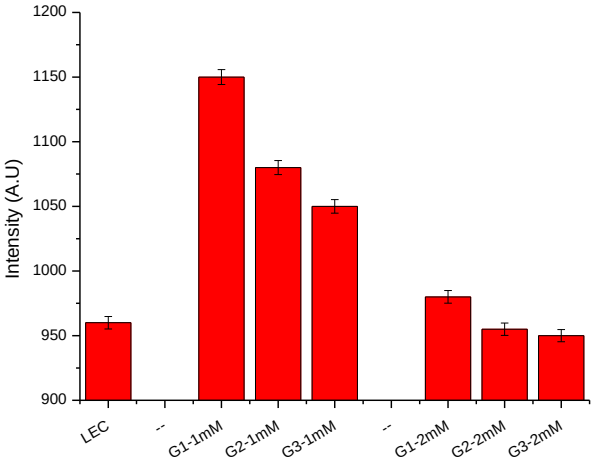
Time scale: 0, 1, 2, 4, 6 and 8h

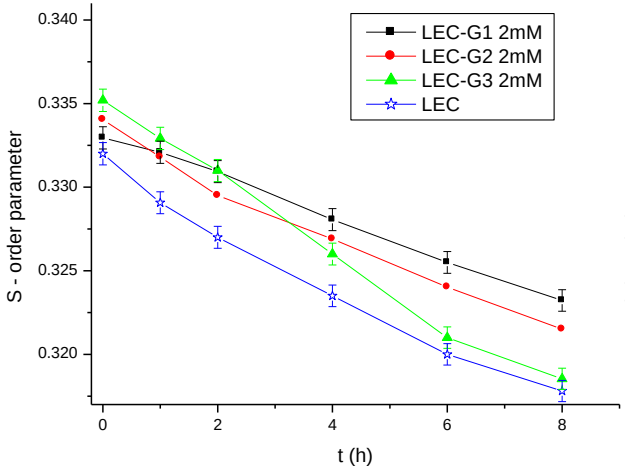
Results

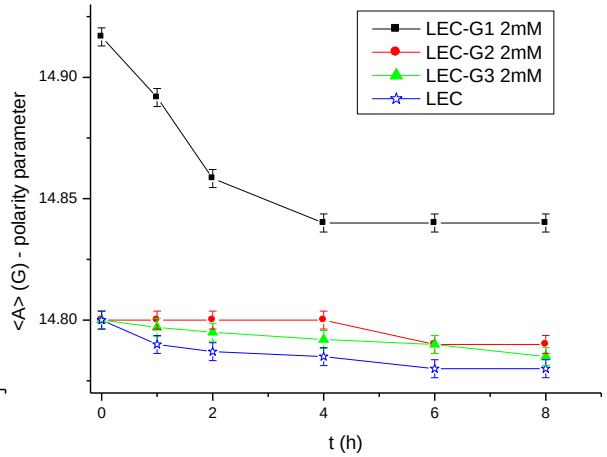
5DSA





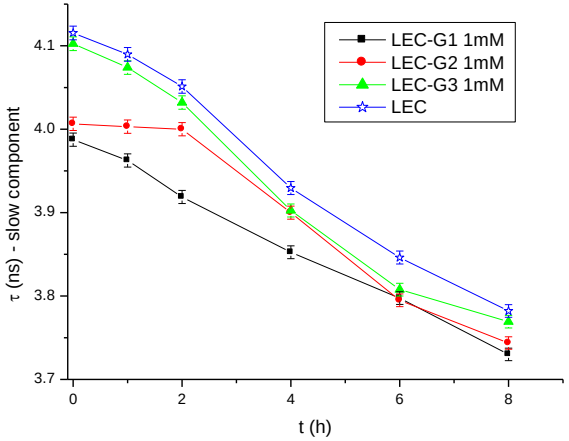


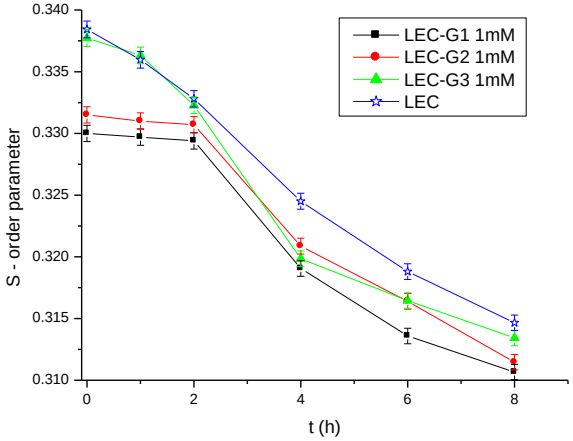


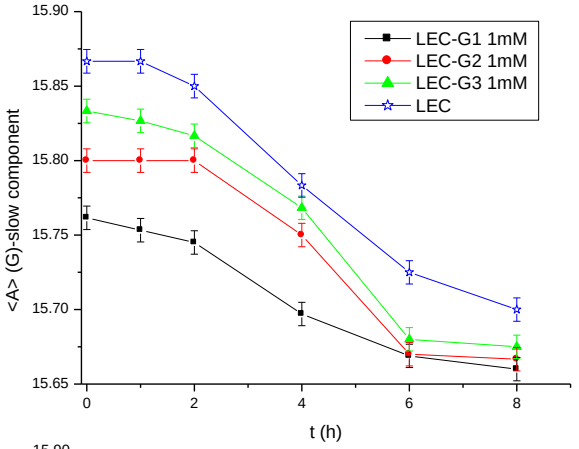


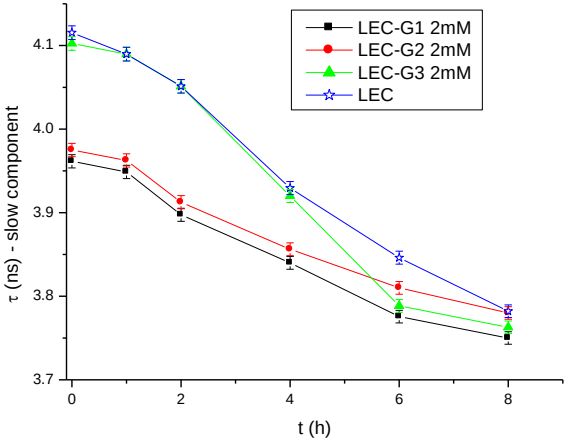
Results

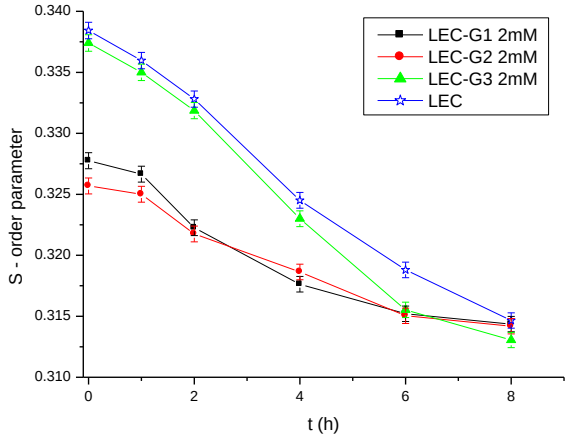
CAT12

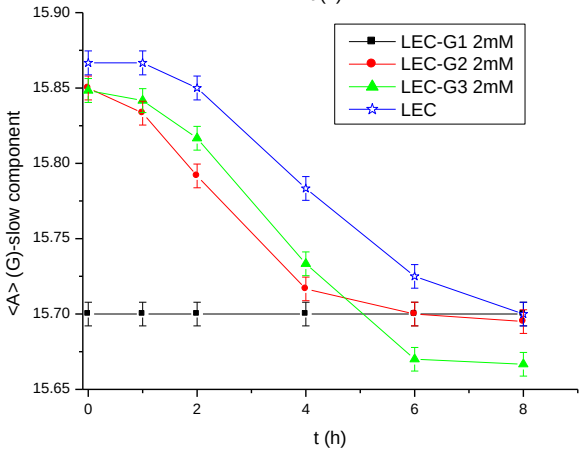


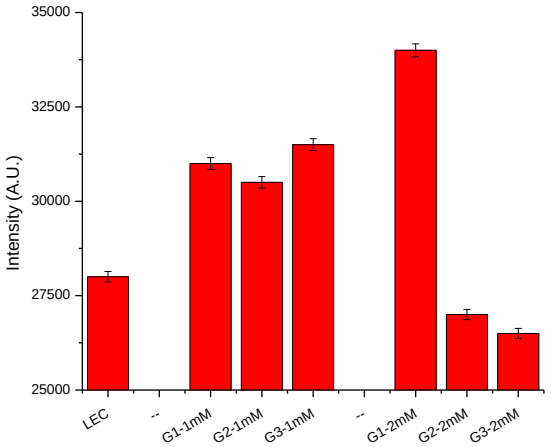












Summary

The EPR analysis using selected spin probes provides useful information about the interactions occurring between the LEC liposomes, as model cell-membrane, and the dendrimers, allowing to verify how these interactions change in type and strength with generation and dendrimer concentration, as such as over the incubation time. We believe that these information are useful in view of the possible use of these dendrimers as anticancer drugs.

The results were obtain at the Department of Pure and Applied Sciences (DiSPeA), Urbino, Italy under Prof. Maria Francesca Ottaviani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