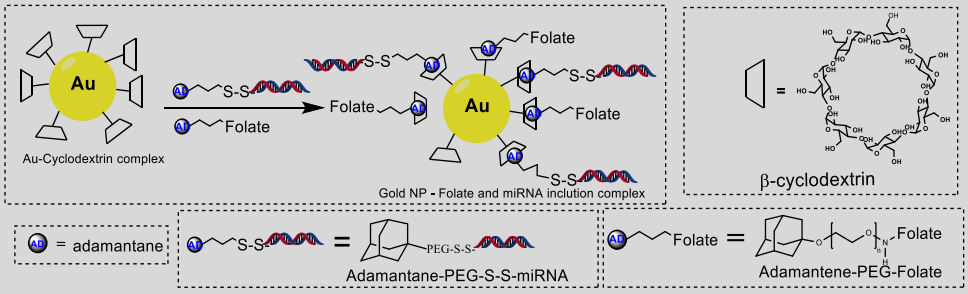
## THE IDEAS

We are currently working on tree separate models for delivering siRNA's or miRNA's to ovarian cancer cell lines (in vitro). The first one consists of a "host-and-guest" approach. The surface of metal nanoparticles (gold or selenium, 50 – 150 nm) are modified with cyclodextrin molecules. This constitutes the "host". The "guest" is siRNA or miRNA molecules chemically bonded to adamantane by a dithiol bond. Other guests needed for providing stability to siRNA's, for cell-membrane transfection and cell targeting are polyethylene glycol (PEG) and folic acid (FA). All components are mixed at their optimum concentration ratio to self-assemble prior to cell transfection.




The second project involves delivering siRNA's and miRNA's to the same cell lines, using liposome formulations containing polyhydroxy compounds to help prevent siRNA/miRNA molecules from diffusing out of the liposome.

Our third project is a combination of the first two approaches described above: the host-and-guest (Au/Se-siRNA) encapsulated inside a liposome.