



УНИВЕРЗИТЕТ  
„ГОЦЕ ДЕЛЧЕВ“  
ШТИП

# CHARACTERIZATION OF PLGA NANOPARTICLES AS PLATFORMS FOR DRUG DELIVERY

Elena Drakalska, Bistra Angelovska, Daniel Cvetanovski  
University „Goce Delcev“-Stip, Faculty of Medical sciences  
*\*corresponding author: elena.drakalska@ugd.edu.mk*

## INTRODUCTION

The therapeutic potential of a number of active substances can not be realized in clinical practice because of the unfavorable physical-chemical properties, the variable pharmacokinetics and the range of side-effects that cause low bioavailability and unsatisfactory therapeutic concentration in the target tissue. A possible approach to overcome these limitations is the encapsulation of the active substances in nanoparticles. The most commonly investigated and characterized nanosystems are the formulations based on PLGA as a biocompatible, biodegradable and approved polymer by the FDA.

## METHODOLOGY

For the purpose, we did a detailed overview of data from clinical studies of various formulations of PLGA, process of preparation and characterization of their structure, influence of various parameters on stability are processed and the patented formulations placed on the market are listed.

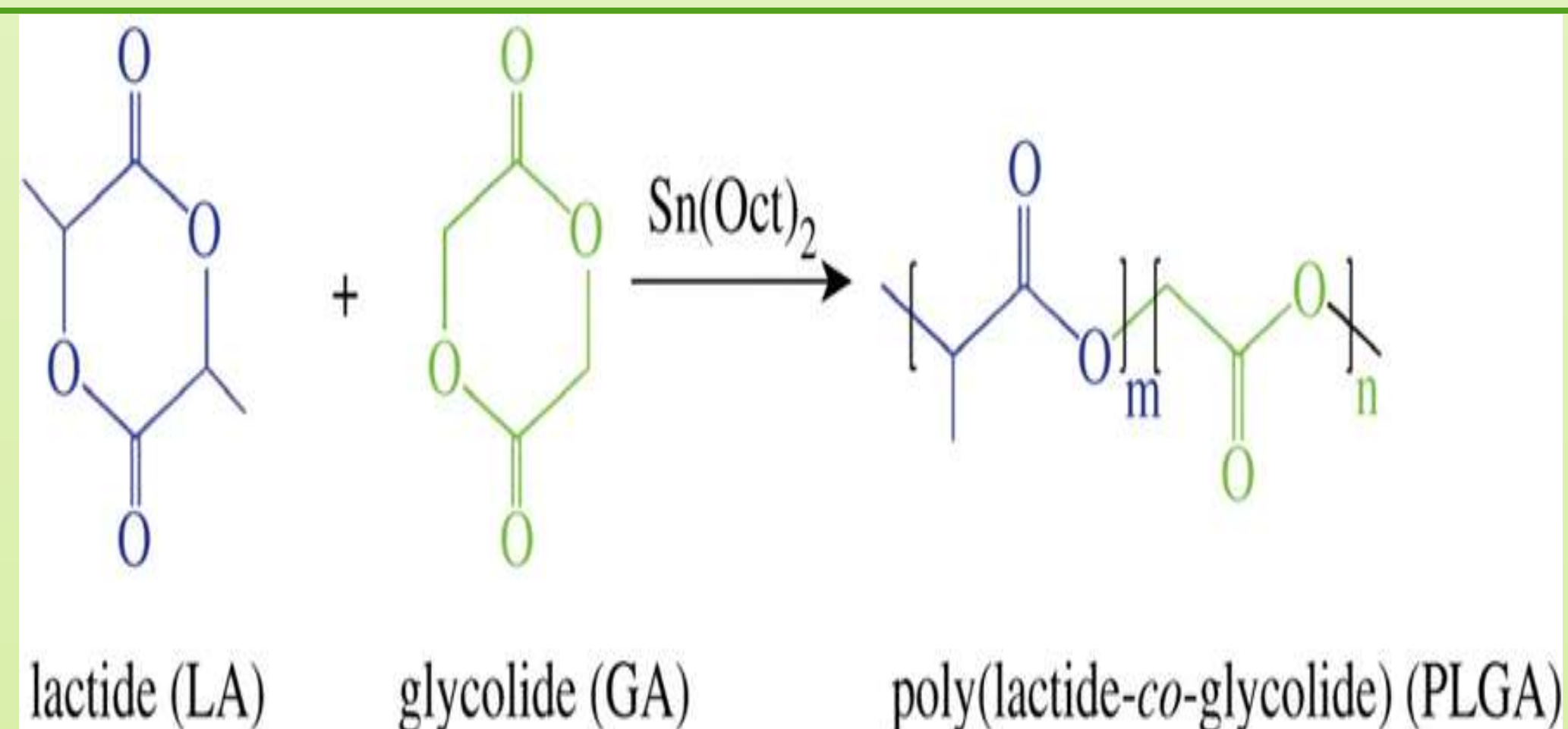
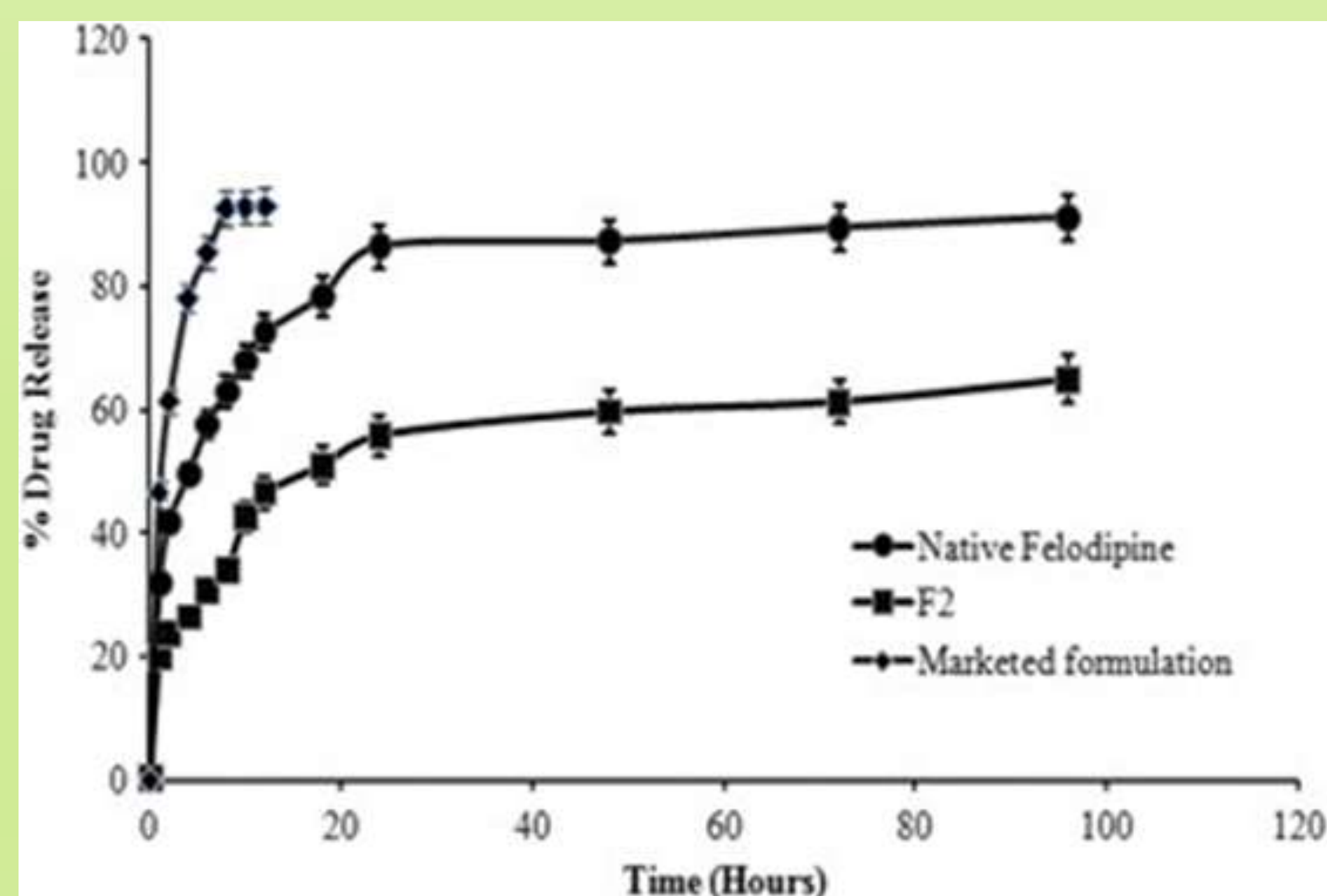
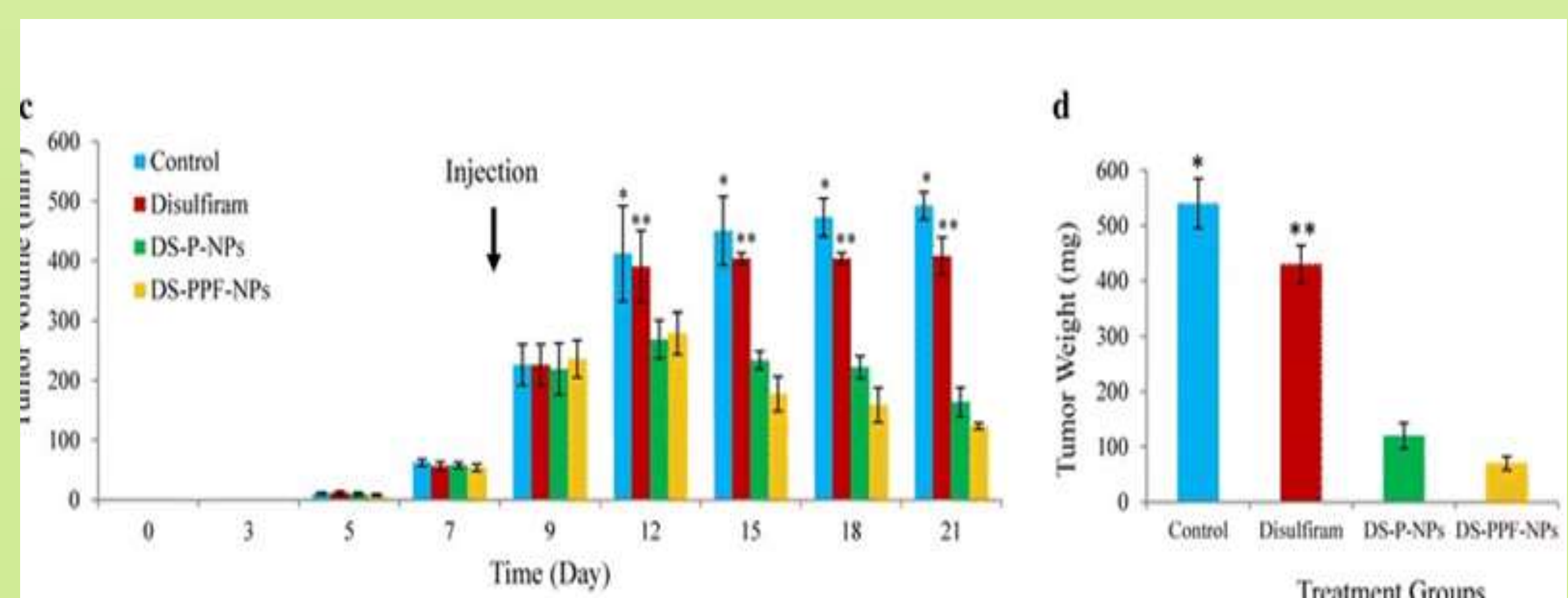
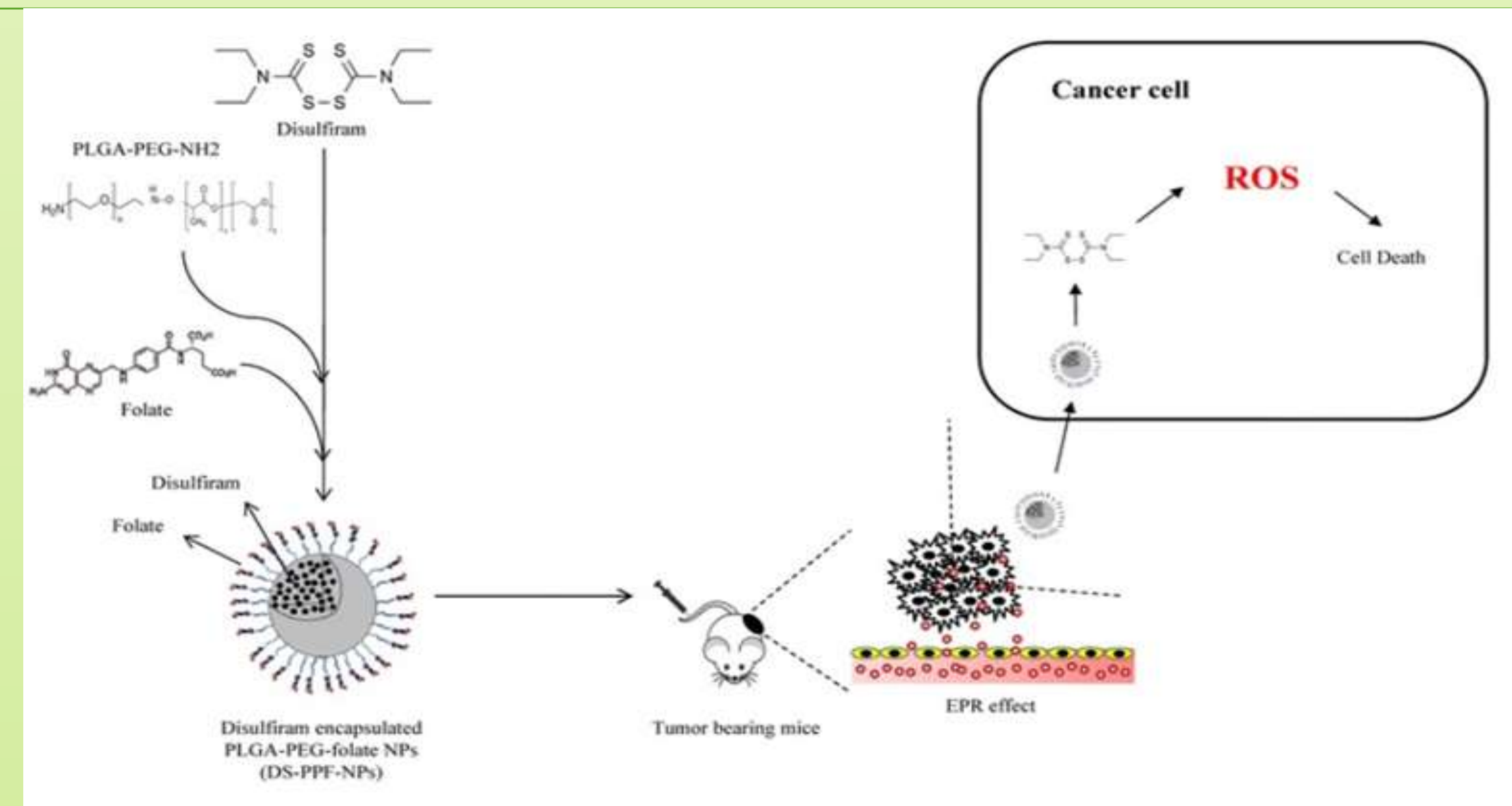


Figure 1. Structure of PLGA



## RESULTS AND DISCUSSION

-We obtained the data by searching a relevant scientific-professional literature, we pointed out the advantages and disadvantages of the nanoparticles and discussed the results of clinical studies of various active substances incorporated in PLGA nanoparticles. From the processed data we concluded that PLGA nanoparticles are optimal carriers for a large number of active substances providing higher solubility, greater stability and improved bioavailability.



## CONCLUSION

From the processed data we concluded that PLGA nanoparticles are optimal carriers for a large number of active substances providing higher solubility, greater stability and improved bioavailability.