

# Curriculum Vitae

## INFORMAZIONI PERSONALI

**Nome** GENNARA  
**Cognome** CAVALLARO  
**Recapiti** Dipartimento STEBICEF  
**Telefono** 091-23891953  
091-23891931  
**E-mail** gennara.cavallaro@unipa.it

## FORMAZIONE TITOLI

### Place of work

Lab of Biocompatibile Polymers

Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche (STEBICEF)

Sezione di Chimica e Tecnologie Farmaceutiche

Università degli Studi di Palermo

Via Archirafi 32, 90123, Italia

tel 0039-09123891931, fax 0039-0916162646

E-mail: gennara.cavallaro@unipa.it

### Personal information

Date of Birth: April 3rd, 1967

Place of Birth: Palermo

### Education

High School, Scientific Lyceum

University of Palermo, Faculty of Pharmacy: Degree in Pharmacy achieved on July 23rd, 1990.

PhD in Chemistry Sciences from University of Palermo in 1993.

## **Permanent positions**

1998 - Associate Professor of Pharmaceutical Technologies at University of Palermo.

2006 - Full Professor in Pharmaceutical Technologies at University of Palermo.

## **ATTIVITA' DIDATTICA**

### **Teaching**

- in the A.A. 1997/1998, as Contract Professor, teacher of "Tecnologia Farmaceutica" for the students of the Degree Course in Farmacia and CTF, University of Calabria,

- for students of the Degree Course in CTF:

- from the A.A. 1998/1999 to 2011/2012, teacher of "Tecnologia Socioeconomia e Legislazione Farmaceutiche II",

- from the A.A. 2001/2002 to A.A. 2009/2010 teacher of "Polimeri di Interesse Farmaceutico",

- from the A.A. 2011/2012 to 2016/2017, teacher of "Tecnologia delle Forme Farmaceutiche",

- from the A.A. 2013-2014 and 2014-2015, teacher of "Tecnologia Farmaceutica Avanzata".

- from the A.A. 2002/2003 to A.A. 2010/2011, teacher of "Tecnologie Farmaceutiche" for the students of the Degree Course in Biotechnologies,

- in the A.A 2003/2004 and 2004/2005, teacher of "Socioeconomia" for the students of the Degree Course in Herbalistic techniques.

- in the A.A. 2015/2016 and 2016/2017, teacher of "Funzionalizzazione di Materiali per uso biomedicale" (6 CFU) for the students of Degree Course in Materials Engineering at the Polytechnic School, Univ. Palermo.

- in the period 10-16 September 2005, Teacher of the 5th Course of Advanced Doctoral School in Technological-Pharmaceutical Disciplines entitled "Innovative Technologies for the Delivery of Medicines" held in Arcavacata di Rende (CS), with a lecture entitled: "Polymeric conjugates of the poliaspartamide: synthetic and applicative aspects".

## **RICERCHE FINANZIATE**

### **Funding projects**

- Since September 2014, Reference Investigator of the University of Palermo for the Project: Drug delivery: veicoli per un'innovazione sostenibile in the DISTRETTO BIOMEDICO AD ALTA TECNOLOGIA;

- FFR 2012/2013, Scientific coordinator of the research project entitled "Development of nanosystems for the delivery of pharmacologically active substances in anticancer therapy" in the framework of the FFR University Call (Fund Finalized for Research), University of Palermo;

- CARIPLO FUNDING 2011, Principal Investigator (*PI*) of the Research Unit of Palermo, in collaboration with University of Pavia and Milano Bicocca, in a funding project entitled: "Nanorods (NR) and gold asymmetric nanoparticles (NPA) coated with biocompatible polymer with binding functions for molecules and metal ions: pharmacological and thermal antimicrobial action activated by irradiation in the near IR";

- PRIN 2010-2011, PI of the Research Unit of Palermo in *the* Research National Project entitled: "Identification of optimal delivery systems for the Nucleic Acid Based Drugs and study of the action mechanisms in some models of human tumoral and inflammatory pathologies";

- PRIN 2006, PI of the Research Unit of Palermo in the Research National Project entitled: "Biocompatible polycations at polyaminoacidic structure for the gene therapy in oncology";

- CORI 2006, Scientific Coordinator of an annual International Collaboration Project with the Center of Drug Research Biotechnology (University of Monaco) entitled: "Biocompatible polyaminoacid-based polycations for gene therapy in oncology";

- PRIN 2002, PI of the Research Unit of Palermo in the Research National Project entitled: "Delivery and targeting of antitumor agents by polymeric vectors";

- PRIN 2000, PI of the Research Unit of Palermo in the Research National Project entitled: "Polyaminoacidic polymers as carrier in gene and antitumor therapy".

## **INCARICHI / CONSULENZE**

### **Institutional roles**

from March 2009 to December 2010, Director of Chemistry and Pharmaceutical Technologies (CTF) Department, University of Palermo.

- From February 2011, Deputy Director of the Department of Molecular and Biomolecular Sciences and Technologies (STEMBIO).

- from 28 February 2011 to December 2012, Head of the Section of CTF of the STEMBIO Department.

- from February 2011 to December 2012, Member of the Giunta of STEMBIO Department.

- from February 2013 to December 2015, Head of Section of CTF Section of STEBICEF Department.

- from April 2014 to date, Member of the International Relations Committee of the University (CORI).

- Member of the Expert Evaluators Group (GEV area 03) for the 2011-2014 VQR exercise.

- In the academic year (A.A.) 2009/2010, Member of the Didactic Commission - Study Plans and Traineeships for students of the degree course in Biotechnology, University of Palermo.

- In the A.A. 2011/2012, Component (president) year 2012 Permanent Teaching Observatory (OPD) of the Degree Course in Chemistry and Pharmaceutical Technology (CTF).

- from the A.A. 2009/2010 to date, component of the Commission for the Professional Practical Training of degree courses in Pharmacy and CTF.

- In the A.A. 2011/2012, Competition Commission Member for the access test to the School of Specialization in Hospital Pharmacy, University of Palermo.

- Referent of the University of Palermo for the project: "Drug Delivery: Vehicles for a sustainable Innovation", PON03PE002161.

- Delegate of the STEBICEF Department Director for the Ordinary Functioning, Maintenance and Management of the Heritage of the STEBICEF Department.

- in the period from 23-03-1999 to 31-12-2015, member of the Faculty Board of the PhD in "Biologically Active Substances Technologies", University of Palermo.

- in the period from 01-01-2014 to date, member of the Faculty Board of the PhD in "Molecular and Biomolecular Sciences", University of Palermo.

- in the period from 01-02-2009 to date, Head of the Laboratory of Organic Chemical Processes, Synthesis and Characterization of Polymeric Materials, local 27, at the CTF Department (now STEBICEF).

- Member of Discipline Board of the University of Palermo from February 2018 to date.

## **ASSOCIAZIONI SCIENTIFICHE**

### **Society membership**

- Associazione Docenti e Ricercatori Tecnologia e Legislazione Farmaceutiche (ADRITELF).

- CRS Italy Chapter
- Società Chimica Italiana (SCI)
- Component of "Centre for Polymer Therapeutics" "Welsh School– University of Cardiff;-
- Component of the Scientific Board of Board of **Controlled Release Society (CRS) - Italy Chapter** from 2004 to 2015.
- Component of the **Consorzio Interuniversitario Nazionale per la Scienza e la Tecnologia dei Materiali (INSTM)**.

## PUBBLICAZIONE

ELENCO DELLE PUBBLICAZIONI SCIENTIFICHE DEL

# Prof. GENNARA CAVALLARO

1) CALORIMETRIC INVESTIGATION OF THE INTERACTION BETWEEN  $\alpha$ , $\beta$ -POLY (N-HYDROXYETHYL)-DL-ASPARTAMIDE AND SURFACTANTS

**G. Giammona, B. Carlisi, G. Cavallaro, I. Donato, F. Pinio and V. Turco Liveri**

*Int. J. Pharm.* 64 (1990) 239-242.

2) CALORIMETRIC INVESTIGATION OF THE COMPLEX FORMATION BETWEEN SURFACTANTS AND  $\alpha$ -,  $\beta$ - AND  $\gamma$ - CYCLODEXTRINS.

V. Turco Liveri, G. Cavallaro, G. Giammona, G. Pitarresi, G. Puglisi and C. Ventura

*Thermochimica Acta*, 199 (1992) 125-132.

3) CALORIMETRIC INVESTIGATION OF THE INTERACTION OF POLYMERIC PRODRUGS WITH SODIUM DODECYLSULFATE MICELLES.

B. Carlisi, C. Cavallaro, G. Giammona, G. Pitarresi, M. L. Turco Liveri and V. Turco Liveri

*Boll. Chim. Farm.* 131 (1992) 189-192.

4) ANTICANCER AGENT COUPLED TO POLYASPARTAMIDE AS A DRUG CARRIER.

G. Giammona, B. Carlisi, G. Cavallaro, G. Pitarresi and S. Palazzo

*Eur. J. Pharm. Biopharm.* 38 (1992) 159-162.

5) WATER-SOLUBLE COPOLYMERS OF AN ANTIVIRAL AGENT: SYNTHESIS AND THEIR INTERACTION WITH A BIOMEMBRANE MODEL.

G. Giammona, B. Carlisi, G. Pitarresi, G. Cavallaro and V. Turco Liveri

*J. Control. Release* 22 (1992) 197-204.

6) VISCOSIMETRIC INVESTIGATION OF THE INTERACTION BETWEEN SODIUM DODECYLSULFATE MICELLES AND A POLYMER DRUG CARRIER.

G. Cavallaro, G. Giammona, G. La Manna, S. Palazzo, G. Pitarresi and V. Turco Liveri

*Int. J. Pharm.* 90 (1993) 195-201.

7) 5- FLUOROURACIL: VARIOUS KINDS OF LOADED LIPOSOMES: ENCAPSULATION EFFICIENCY, STORAGE STABILITY AND FUSOGENIC PROPERTIES.

M. Fresta, A. Villari, G. Puglisi and G. Cavallaro

*Int. J. Pharm.* 99 (1993) 145-156.

8) CALORIMETRIC AND VISCOSIMETRIC INVESTIGATION OF THE INTERACTION BETWEEN  $\alpha,\beta$ -POLYASPARTHYDRAZIDE AND SODIUM DODECYLSULFATE MICELLES.

V. Turco Liveri, G. Cavallaro, G. Giammona, G. Pitarresi and M. L. Turco Liveri

*Int. J. Pharm.* 99 (1993) 285-291.

9) DIELECTRIC BEHAVIOR OF AQUEOUS SOLUTIONS OF  $\alpha,\beta$ -POLY(ASPARTHYL HYDRAZIDE) AND  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE: AN INVESTIGATION OF THE STRUCTURAL AND DYNAMIC PROPERTIES.

G. Cavallaro, G. Giammona, M. Goffredi, G. La Manna, G. Pitarresi and V. Turco Liveri

*J. Bioact. Comp. Polym.* 9 (1994) 101-110.

10) A NEW WATER-SOLUBLE SYNTHETIC POLYMER,  $\alpha,\beta$ -POLYASPARTHYL HYDRAZIDE, AS POTENTIAL PLASMA EXPANDER AND DRUG CARRIER.

G. Giammona, B. Carlisi, G. Cavallaro, G. Pitarresi and S. Spampinato

*J. Control. Release* 29 (1994) 63-72.

11) SYNTHESIS AND THERAPEUTICAL POTENTIAL OF A MACROMOLECULAR PRODRUG OF DIFLUNISAL.

G. Giammona, G. Cavallaro, G. Pitarresi, C. Ventura and S. Palazzo

*Int. J. Pharm.* 104 (1994) 57-63.

12) ENTRAPMENT OF  $\beta$ -LACTAMES ANTIBIOTICS IN POLYETHYLCYANOACRYLATE NANOPARTICLES: STUDIES ON THE POSSIBLE IN VIVO APPLICATION OF THIS COLLOIDAL DELIVERY SYSTEM.

G. Cavallaro, M. Fresta, G. Giammona, G. Puglisi and A. Villari

*Int. J. Pharm.* 111 (1994) 34-41.

13) ELECTROSTATIC CONTRIBUTION OF THE INTERACTION OF  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE WITH SODIUM DODECYLSULFATE MICELLES.

G. Cavallaro, G. Giammona, G. La Manna, G. Pitarresi and V. Turco Liveri

*J. Therm. Anal.* 42 (1994) 869-875.

14) CHEMICAL STABILITY AND BIOAVAILABILITY OF ACYCLOVIR COUPLED TO  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE.

G. Giammona, G. Puglisi, G. Cavallaro, A. Spadaro and G. Pitarresi

*J. Control. Release* 33 (1995) 261-271.

15) CROSSLINKED  $\alpha,\beta$ -POLY-ASPARTHYHYDRAZIDE MICROMATRICES FOR CONTROLLED RELEASE OF ANTICANCER DRUGS.

G. Giammona, G. Pitarresi, B. Carlisi and G. Cavallaro

*J. Bioact. Compat. Polym.* 10 (1995) 28-40.

16) CALORIMETRIC INVESTIGATION OF THE FORMATION OF PALLADIUM NANOPARTICLES IN WATER/AOT/n-HEPTANE MICROEMULSIONS.

V. Arcolego, G. Cavallaro, G. La Manna and V. Turco Liveri

*Thermochimica Acta* 254 (1995) 111-119.

17) PEFLOXACIN MESILATE- AND OFLOXACIN-LOADED POLYETHYL-CYANOACRYLATE NANOPARTICLES: CHARACTERIZATION OF THE COLLOIDAL DRUG CARRIER FORMULATION.

M. Fresta, G. Puglisi, G. Giammona, G. Cavallaro, N. Micali and P. M. Furneri,

*J. Pharm. Sci.* 84 (7) (1995) 895 - 902.

18) CALORIMETRIC INVESTIGATION OF THE INTERACTION BETWEEN A MACROMOLECULAR PRODRUG OF DIFLUNISAL AND HUMAN PLATELETS.



V. Arcoleo, G. Cavallaro, G. La Manna and V. Turco Liveri

J. *Therm. Anal.* 44 (1995) 1487-1491.

19) a, b-POLYAPARTHYDRAZIDE COPOLYMERS CONTAINING TYRAMINE RESIDUES. I. SYNTHESIS AND CHARACTERIZATION

G. Cavallaro, G. Fontana, G. Pitarresi, G. Giammona and S. Palazzo

*Acta Technologiae et Legis Medicamenti* VI (2) (1995) 103-114.

20) SYNTHESIS AND CHARACTERIZATION OF GLYCOSILATED POLYMERIC DRUG CARRIERS: a, b-POLY-(N-HYDROXYETHYL)-DL-ASPARTAMIDE-TYRAMINE COPOLYMERS (PHEA-TYRAMINE) AND a, b-POLYASPARTHYDRAZIDE-TYRAMINE (PAHy-TYRAMINE) COPOLYMERS CONTAINING GALACTOSE RESIDUES

**G. Cavallaro, G. Fontana, G. Pitarresi, V. Tomarchio and G. Giammona**

*Acta Technologiae et Legis Medicamenti* VI (2) (1995) 115-130.

21) STRUCTURAL INVESTIGATION OF WATER/LECITHIN/CYCLOHEXANE MICROEMULSIONS BY FT-IR SPECTROSCOPY

G. Cavallaro, G. La Manna, V. Turco Liveri, F. Aliotta and E. Fontanella

*J. Coll. Inter. Sci.* 176 (1995) 281-285.

22) PREPARATION AND CHARACTERIZATION OF POLYETHYL-2-CYANOACRYLATE NANOCAPSULES CONTAINING ANTIEPILEPTIC DRUGS.

M. Fresta, G. Cavallaro, G. Giammona, E. Wehrli and G. Puglisi

*Biomaterials*, 17 (1996) 751-758.

23) CYTARABINE RELEASE FROM a,b-POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE MATRICES CROSSLINKED THROUGH GAMMA-RADIATION.

G. Spadaro, C. Dispenza, G. Giammona, G. Pitarresi and G. Cavallaro

*Biomaterials* 17 (1996) 953-958.

24) MICROPARTICLES OF A POLYASPARTAMIDE CROSSLINKED BY GAMMA RADIATION CONTAINING ZIDOVUDINE AND DIFLUNISAL AS MODEL DRUGS: PREPARATION, CHARACTERIZATION AND *IN VITRO* RELEASE BEHAVIOUR

G. Pitarresi, V. Tomarchio, G. Cavallaro, G. Spadaro and G. Giammona.

*STP Pharma Sciences* 6 (4) (1996) 292-297.

25) CROSSLINKED a, b-POLYASPARTHYDRAZIDE HYDROGELS: EFFECT OF CROSSLINKING DEGREE AND LOADING METHOD ON CYTARABINE RELEASE RATE

G. Giammona, G. Pitarresi, V. Tomarchio, G. Cavallaro and M. Mineo

*J. Control. Release* 41 (1996) 195-203.

26) MACROMOLECULAR PRODRUG OF DIFLUNISAL. II. INVESTIGATIONS OF *IN VITRO* RELEASE AND OF PHOTOCHEMICAL BEHAVIOUR.

**G. Giammona, G. Cavallaro, G. Fontana, G. De Guidi and S. Giuffrida**

*Eur. J. Pharm. Sci.* 4 (1996) 273-282.

27) a,b- POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE HYDROGELS AS DRUG DELIVERY DEVICES

G. Pitarresi, V. Tomarchio, G. Cavallaro, F. Castelli and G. Giammona

*J. Bioact. Comp. Polym.* 11 (1996) 328-340.

28) PREPARATION AND PHYSICO-CHEMICAL STUDY OF INCLUSION COMPLEXES BETWEEN IDEBENONE AND MODIFIED  $\beta$ -CYCLODEXTRIN.

G. Puglisi, C. A. Ventura, M. Fresta, M. A. Vandelli, G. Cavallaro and M. Zappalà.

J. *Incl. Phenom. Mol. Recog. Chem.* 24 (1996) 193-210.

29) ACRYLOYLATED  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE AND  $\alpha,\beta$ -POLYASPARTHYDRAZIDE. SYNTHESIS, CHARACTERIZATION AND RADIATION FORMATION OF POLYMERIC NETWORKS.

G. Giammona, V. Tomarchio, G. Pitarresi and G. Cavallaro.

*Colloid Polym. Sci.* 275 (1997) 54-59.

30) GLYCIDYL METHACRYLATE DERIVATIZATION OF  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE AND  $\alpha,\beta$ -POLYASPARTHYDRAZIDE.

G. Giammona, V. Tomarchio, G. Pitarresi and G. Cavallaro

*Polymer* 38 (1997) 3315-3323.

31) RECENT POLYMER RESEARCHES IN ITALIAN UNIVERSITIES: SYNTHETIC MACROMOLECULES OF PROTEIN-LIKE STRUCTURE.

G. Giammona, G. Cavallaro, G. Fontana and G. Pitarresi

*Curr Polym. Res.* 43 (1997) 46-48.

32) CONFORMATIONAL ANALYSIS OF  $\alpha,\beta$ -POLY(N-HYDROXYETHYL)-DL-ASPARTAMIDE (PHEA) AND  $\alpha,\beta$ -POLYASPARTHYDRAZIDE (PAHy) POLYMERS IN AQUEOUS SOLUTION.

T. Coviello, Y. Yuguchi, K. Kajiwara, G. Giammona, G. Cavallaro, F. Alhaique and A Palleschi

*Polymer* 39 (1998) 4159-4164.

33) COUPLING OF THE ANTIVIRAL AGENT ZIDOVUDINE TO POLYASPARTAMIDE AND IN VITRO DRUG RELEASE STUDIES.

G. Giammona, G. Cavallaro, G. Pitarresi, G. Fontana and B. Carlisi,

*J. Control. Release* 54 (1998) 321-331.

34) STUDIES OF MACROMOLECULAR PRODRUGS OF ZIDOVUDINE

G. Giammona, G. Cavallaro and G. Pitarresi.

*Adv. Drug Del. Rev.* 39 (1999) 153-164.

35) MOLECULAR CHARACTERIZATION OF  $\alpha,\beta$ -POLY(ASPARTYLHYDRAZIDE) A NEW SYNTHETIC POLYMER FOR BIOMEDICAL APPLICATIONS

R. Mendichi, G. Giammona, G. Cavallaro and A. Giacometti Schieronni

*Polymer* 40 (1999) 7109-7116.

3) FUNCTIONALIZATION OF A POLYASPARTAMIDE WITH GLYCIDYL METHACRYLATE: AN USEFUL METHOD TO REPAIR HYDROGELS THROUGH GAMMA IRRADIATION

G. Giammona, G. Pitarresi, G. Cavallaro and G. Spadaro

*Macromol. Symp.* 138 (1999) 225 - 230.

37) NEW BIODEGRADABLE HYDROGELS ON AN ACRYLOYLATED POLYASPARTAMIDE CROSS-LINKED BY GAMMA IRRADIATION

G. Giammona, G. Pitarresi, G. Cavallaro and G. Spadaro

*J. Biomater. Sci. Polymer Edn.* 10 (1999) 969 - 987.

3) NEW BIODEGRADABLE HYDROGELS BASED ON A PHOTOCROSSLINKABLE MODIFIED POLYASPARTAMIDE: SYNTHESIS AND CHARACTERIZATION.

G. Giammona, G. Pitarresi, G. Cavallaro, S. Buscemi and F. Saiano

*Biochim. Biophys. Acta* 1428 (1999) 29-38.

39) CATIONIC COPOLYMERS OF a,b-POLY(N-2-HYDROXYETHYL)-DL-ASPARTAMIDE AND a,b-POLYASPARTHYLHYDRAZIDE.

G. Giammona, G. Cavallaro, G. Pitarresi and E. Pedone

*Polym. Int.* 49 (2000) 93-98.

NOVEL HYDROGELS BASED ON A POLYASPARTHYDRAZIDE. SYNTHESIS AND CHARACTERIZATION

G. Pitarresi, G. Cavallaro, B. Carlisi, G. Giammona, D. Bulone and P. L. San Biagio

*Macromol. Chem. Phys.* 201 (2000) 2542- 2549.

41) NOVEL POLYAMINOACIDIC COPOLYMERS AS NON VIRAL VECTORS FOR GENE THERAPY

G. Giammona, G. Cavallaro, G. Pitarresi and E. Pedone

*Colloid Polym. Sci.* 278 (1) (2000) 69-73.

42) MOLECULAR CHARACTERIZATION OF a,b-POLY[N-(HYDROXYETHYL)-DL-ASPARTAMIDE] BY LIGHT SCATTERING AND VISCOMETRY STUDIES

R. Mendichi, G. Giammona, G. Cavallaro and A. Giacometti Schieroni

*Polymer* 41 (2000) 8649-8657.

43) POLYMERIC PRODRUG FOR RELEASE OF AN ANTITUMORAL AGENT BY SPECIFIC ENZYMES

G. Cavallaro, G. Pitarresi, M. Licciardi and G. Giammona

*Bioconjugate. Chem.* 12 (2001) 143-151.

4) NOVEL WATER-SWELLABLE BEADS BASED ON AN ACRYLOYLATED POLYASPARTAMIDE

R. Mazzalupo, F. Iemma, N. Picci, G. Pitarresi, G. Cavallaro, G. Giammona

*Colloid Polym. Sci.* 279 (2001) 688-695.

5) HYDROGELS CONTAINING 5-FLUOROURACIL OBTAINED BY  $\gamma$ -IRRADIATION. SYNTHESIS, CHARACTERIZATION AND IN VITRO RELEASE STUDIES

G. Pitarresi, M. Licciardi, G. Cavallaro, G. Spadaro and G. Giammona

*Colloid Polym. Sci.* 279 (2001) 579-588.

6) NEW BIODEGRADABLE HYDROGELS BASED ON A PHOTO-CROSS-LINKABLE POLYASPARTAMIDE AND POLY(ETHYLENE GLYCOL) DERIVATIVES. RELEASE STUDIES OF AN ANTICANCER DRUG.

G. Giammona, G. Pitarresi, E. F. Craparo, G. Cavallaro, S. Buscemi

*Colloid Polym. Sci.* 279 (2001) 771-783.

7) OCULAR TOLERABILITY AND IN VIVO BIOAVAILABILITY OF POLY(ETHYLENE GLYCOL) (PEG)-COATED POLYETHYLENE-2-CYANOACRYLATE NANOSPHERE-ENCAPSULATED ACYCLOVIR.

M. Fresta, G. Fontana, C. Bucalo, G. Cavallaro, G. Giammona, G. Puglisi.

*J. Pharm. Sci.* 90 (2001) 288-297.

8) SYNTHESIS AND BIOPHARMACEUTICAL CHARACTERISATION OF NEW POLY(HYDROXYETHYLASPARTAMIDE) COPOLYMERS AS DRUG CARRIERS.

P. Caliceti, S. M. Quarta, F. M. Veronese, G. Cavallaro, E. Pedone and G. Giammona

*Biochim. Biophys. Acta* 1528 (2001) 177-186.

49)  $\alpha,\beta$ -POLY(ASPARTHYLHYDRAZIDE)-GLYCIDYLTRIMETHYLAMMONIUM CHLORIDE COPOLYMERS (PAHy-GTA): NOVEL POLYMERS WITH POTENTIAL FOR DNA DELIVERY

E. Pedone, G. Cavallaro, S. C. W. Richardson, R. Duncan and G. Giammona

*J. Control. Release* 77 (2001) 139-153.

50) NEW HYDROGEL MATRICES CONTAINING AN ANTIINFLAMMATORY AGENT. EVALUATION OF IN VITRO RELEASE AND PHOTOPROTECTIVE ACTIVITY

G. Pitarresi, G. Cavallaro, G. Giammona, G. De Guidi, M. G. Salemi, S. Sortino

*Biomaterials* 23 (2002) 537-550.

51) MESOPOROUS SILICATE AS MATRIX FOR DRUG DELIVERY SYSTEMS OF NON-STEROIDAL ANTIINFLAMMATORY DRUGS

R. Aiello, G. Cavallaro, G. Giammona, L. Pasqua, P. Pierro, F. Testa

*Studies in Surface Science and Catalysis*, 142 (2002) 1165-1172

52) EVALUATION OF MUCOADHESIVE PROPERTIES OF  $\alpha,\beta$ -POLY(N- HYDROXYETHYL)-DL-ASPARTAMIDE AND  $\alpha,\beta$ -POLY(ASPARTHYLHYDRAZIDE) USING ATR-FTIR SPECTROSCOPY.

F. Saiano, G. Pitarresi, G. Cavallaro, M. Licciardi, G. Giammona

*Polymer* 43 (2002) 6281-6286.

53) POLY(HYDROXYTHYL) DERIVATIVES AS COLLOIDAL DRUG CARRIER SYSTEMS

G. Cavallaro, M. Licciardi, G. Giammona, P. Caliceti, A. Semenzato, S. Salmaso

*J Controlles Rel.* 89, (2003) 285-295.

54) MOLECULAR CHARACTERIZATION OF  $\alpha,\beta$ -POLY[N-IDROXYETIL]-DL-ASPARTAMIDE] DERIVATIVES AS POTENTIAL SELF-ASSEMBLING COPOLYMERS FORMING POLYMERIC MICELLES.

R. Mendichi, A. Giacometti Schieroni, G. Cavallaro, M. Licciardi, G. Giammona

*Polymer*, 44 (2003) 4871-4878.

55) DRUG DELIVERY DEVICES BASED ON MESOPOROUS SILICATE.

G. Cavallaro, F. Testa, P. Pierro, L. Pasqua, F. S. Palumbo, R. Aiello

*Drug Delivery*, 11 (1), (2004), 41-46.

56)SYNTHESIS, PHYSICO-CHEMICAL PROPERTIES AND BIOLOGICAL CHARACTERIZATION OF A PACLITAXEL MACROMOLECULAR PRODRUG

G. Cavallaro, M Licciardi, G. Giammona, P. Caliceti, S. Salmaso

*Eur. J. Pharm. Biopharm.* 58 (2004), 151-159.

57) PREPARATION OF POLYMERIC NANOPARTICLES BY PHOTO-CROSSLINKING OF AN ACRYLOYLTAED POLYASPARTAMIDE IN W/O MICROEMULSION

E. F. Craparo, G. Cavallaro, M. Luisa Bondi and G. Giammona.

*Macromol. Chem. Phys.* 205 (2004), 1955-1964.



58) CHEMICAL CONJUGATION OF DEXAMETASONE TO A POLYASPARTAMIDE AND IN VITRO EVALUATION STUDIES

G. Cavallaro, L. Maniscalco, G. Giammona, C. Civile, M. G. Mazzone, V. Enea

*J. Drug Del. Sci. Technol.* 14 (2004), 373-381

59) TAMOXIFEN-LOADED POLYMERIC MICELLES: PREPARATION AND IN VITRO BIOLOGICAL EVALUATION

G. Cavallaro, L. Maniscalco, M. Licciardi, G. Giammona

*Macromol. Biosc.* 4 (2004), 1028-1038.

60) GLYCOSILATED MACROMOLECULAR CONJUGATES OF ANTIVIRAL DRUGS WITH A POLYASPARTAMIDE

G. Cavallaro, L. Maniscalco, P. Caliceti, S. Salmaso, A. Semenzato and G. Giammona

*J. Drug Targeting*, 12 (9-10) 2004, 593-605.

61) K<sup>+</sup> AND Na<sup>+</sup> EFFECTS ON THE GELATION PROPERTIES OF κ-CARRAGEENAN

M. R. Mangione, D. Giacomazza, D. Bulone, V. Martorana, G. Cavallaro and P. L. San Biagio, *Biophysical Chemistry*, 113 (2005) 129-135.

62) NOVEL CATIONIC COPOLYMERS OF A POLYASPARTHYLHYDRAZIDE SYNTHESIS AND CHARACTERIZATION

G. Cavallaro, F. S. Palumbo, M. Licciardi, G. Giammona

*Drug Delivery* 12 (6) (2005) 377-384.

63) PREPARATION; CHARACTERIZATION AND IN VITRO ANTITUMORAL ACTIVITY OF SOLID LIPID NANOPARTICLES (SLN) CONTAINING TAMOXIFEN

G. Fontana, L. Maniscalco, D. Schillaci, G. Cavallaro, G. Giammona

*Drug Delivery* 12 (6) (2005) 385-392.

64) SYNTHESIS AND CHARACTERIZATION OF NOVEL NON TOXIC POLYAMINOACIDIC POLYCATIONS FOR GENE THERAPY

M. Licciardi, M. Campisi, G. Cavallaro, M. Cervello, A. Azzolina, G. Giammona

*Biomaterials* 27 (2006) 2066-2075

65) FOLATE-MEDIATED TARGETING OF POLYMERIC CONJUGATES OF GEMCITABINE

G. Cavallaro, M. Licciardi, S. Salmaso, P. Caliceti, G. Giammona

*Int. J. Pharm.* 307 (2006) 258-269

66) pH SENSITIVE HYDROGELS BASED ON POLYASPARTAMIDE DERIVATIVES

G. Giammona, G. Pitarresi, G. Cavallaro, B. Carlisi, E.F. Craparo, D. Mandracchia

*J. Drug Delivery Science and Technology*, 16 (2006) 77-84

67) NOVEL CATIONIC POLYASPARTAMIDE WITH COVALENTLY LINKED CARBOXYPROPYL-TRIMETHYL AMMONIUM CHLORIDE AS GENE DELIVERY VECTOR

M. Licciardi, M. Campisi, G. Cavallaro, B. Carlisi, G. Giammona

*Eur. Polymer Journal* 42 (2006) 823-834.

68) SYNTHESIS AND CHARACTERIZATION OF NOVEL CHEMICAL CONJUGATES BASED ON POLYASPARTYLHYDRAZIDE AND  $\beta$ -CYCLODEXTRINS

G. Giammona, G. Cavallaro, L. Maniscalco, E.F. Craparo, G. Pitarresi

*Eur. Polym. Journal.* 42 (2006) 2715-2729

69) AMPHIPHILIC DERIVATIVES OF A POLYASPARTAMIDE: THEIR AGGREGATION AND SOLUBILIZATION ABILITY. TENSIO-METRIC AND SPECTROPHOTOMETRIC STUDIES.

G. Cavallaro, M. L. Turco Liveri, R. Lombardo, Luciana Sciascia, G. Giammona.

*Colloid and Surface A*, 289 (2006) 10-16.

70) REVERSIBLY STABLE THIOPOLYPLEXES FOR INTRACELLULAR DELIVERY OF GENES

G. Cavallaro, M. Campisi, M. Licciardi, Manfred Ogris and Gaetano Giammona

*J. Controlled Release* 115 (2006) 322-334.

71) PEGYLATED NANOPARTICLES BASED ON A POLYASPARTAMIDE. PREPARATION, PHYSICO-CHEMICAL CHARACTERIZATION AND THEIR INTRACELLULAR UPTAKE.

E. F. Craparo, G. Cavallaro, M. L. Bondi, D. Mandracchia and G. Giammona.

*Biomacromolecules*, 7 (2006) 3083-3092.

## **72) SYNTHESIS, CHARACTERIZATION AND IN VITRO CYTOTOXICITY STUDIES OF A MACROMOLECULAR CONJUGATE OF PACLITAXEL BEARING OXYTOCIN AS TARGETING MOIETY**

G. Cavallaro, L. Maniscalco, M. Campisi, D. Schillaci and G. Giammona

*Eur. J. Pharm Biopharm.* 66 (2007) 182-192.

73) A NEW BIODEGRADABLE AND BIOCOMPATIBLE HYDROGEL WITH POLYAMINOACID STRUCTURE

G. Pitarresi, F. Saiano, G. Cavallaro, D. Mandracchia, F. S. Palumbo

*Int. J. Pharm.* 335 (2007) 130-137.

74) PREPARATION AND CHARACTERIZATION OF NEW HYDROGELS BASED ON HYALURONIC ACID AND  $\alpha,\beta$ -POLYASPARTYLHYDRAZIDE

G. Pitarresi, F.S. Palumbo, G. Tripodo, G. Cavallaro, G. Giammona

*Eur. Polymer J.*, 43 (2007) 3953-3962.

75) NOVEL BIOCOMPATIBLE CATIONIC COPOLYMERS BASED ON POLYASPARTYLHYDRAZIDE BEING POTENT AS GENE VECTOR ON TUMOR CELLS.

M. Ogris, A. K. Kotha, N. Tietze, E. Wagner, F. S. Palumbo, G. Giammona and G. Cavallaro.

*Pharm. Res.*, 24 (12), (2007) 2213-2222.

76) RELATION BETWEEN STRUCTURAL DRUG AND RELEASE PROPERTIES IN A POLYSACCHARIDE GEL SYSTEM

M.R. Mangione, D. Giacomazza,, G. Cavallaro, D. Bulone, V. Martorana and P.L. San Biagio

*Biophys. Chem.* 129 (2007) 18-22.

77) INULIN-IRON COMPLEXES: A POTENTIAL TREATMENT OF IRON DEFICIENCY ANAEMIA

G. Pitarresi, G. Tripodo, G. Cavallaro, F.S. Palumbo, G. Giammona

*Eur. J. Pharm. Biopharm.* 68 (2008) 267-276.

78) KINETIC STUDIES OF THE INTERACTION BETWEEN DNA AND POLYCATIONS BASED ON POLYASPARTYLHYDRAZIDE

M. L. Turco Liveri, E. F. Craparo, M. Licciardi, C. Sbriziolo and G. Cavallaro

*Colloid and Surface A: Physicochemical and Engineering Aspects*, 316 (2008) 234-244

79) HYDROPHILIC AND HYDROPHOBIC COPOLYMERS OF A POLY(ASPARTHYLHYDRAZIDE) BEARING POSITIVE CHARGES AS VECTORS AS VECTOR GENE THERAPY

G. Cavallaro, M. Licciardi, D. Mandracchia, G. Pitarresi, G. Giammona

*Polymer Int.* 57 (2008) 708-713.

80) SUPRAMOLECULAR ASSOCIATION OF RECOMBINANT HUMAN GROWTH HORMONE WITH HYDROPHOBIZED POLYHYDROXYETHYLASPARTAMIDES

S. Salmaso, R. Schrepfer, G. Cavallaro, S. Bersani, F. Caboi, G. Giammona, G. Tonon and P. Caliceti

*Eur. J. Pharm Biopharm*, 68 (2008) 656-666

81) POLYASPARTHYLHYDRAZIDE COPOLYMER-BASED SUPRAMOLECULAR LIPIDIC AGGREGATES AS DELIVERY DEVICES FOR ANTICANCER DRUGS

D. Paolino, D. Cosco, M. Licciardi, G. Giammona, M. Fresta, G. Cavallaro

*Biomacromolecules*, 9 (2008) 1117-1130.

82) SCAFFOLD BASED ON HYALURONAN CROSSLINKED WITH A POLYAMINOACID: NOVEL CANDIDATES FOR TISSUE ENGINEERING APPLICATION

G. Pitarresi, F.S. Palumbo, G. Cavallaro, S. Faré, G. Giammona

*J. Biomed Mat Res*, 87 A (3), 770-779 (2008)

83) POLYHYDROXYETHYLASPARTAMIDE-SPERMINE COPOLYMERS:

EFFICIENT VECTORS FOR GENE DELIVERY

G. Cavallaro, S. Scirè, M. Licciardi, M. Ogris, E. Wagner, G. Giammona

*J. Controlled Release*, 131, 54-63, 2008

84) AMPHIPHILIC POLY(HYDROXYETHYLASPARTAMIDE) DERIVATIVE-BASED MICELLES AS DRUG DELIVERY SYSTEMS FOR FERULIC ACID

E.F. Craparo, G. Cavallaro, M. C. Ognibene, T. Girolamo, M. L. Bondi, G. Giammona

*J. Drug Targeting*, 17(1) 78-88, 2008.

85) CONTROLLED RELEASE OF IgG BY NEW UV INDUCED POLYSACCHARIDE/POLYAMINOACID HYDROGELS.

G. Tripodo, G. Pitarresi, G. Cavallaro, F. S. Palumbo, G. Giammona,

*Macromol. Biosc.*, 9, 393-401, 2009.

86) MICROWAVE-ASSISTED SYNTHESIS OF POLYHYDROXYETHYLASPARTAMIDE-OLIGOAMINE COPOLYMERS AS POTENTIAL GENE DELIVERY SYSTEMS

**G. Cavallaro, M. Licciardi, S. Scirè, G. Giammona,**  
***Nanomedicine*, 4 (2) 291, 2009**

87) NEW SELF-ASSEMBLING POLYASPARTAMIDE-BASED BRUSH COPOLYMERS OBTAINED BY ATOM TRANSFER RADICAL POLYMERIZATION

**G. Cavallaro, M. Licciardi, M. Di Stefano, G. Pitarresi and G. Giammona**

*Macromolecules*, 42, 3247-3257, 2009.

88) POLYHYDROXYETHYLASPARTAMIDE-BASED MICELLES FOR OCULAR DRUG DELIVERY

C. Civiale, M. Licciardi, G. Cavallaro, G. Giammona, M.G. Mazzone,

*Int. J. Pharm.* 378, 177-186, 2009.

89) INNOVATIVE POLYMER- AND LIPID- BASED NANOTECHNOLOGIES

FOR DRUG AND NUCLEIC ACID DELIVERY

G. Cavallaro, E. F. Craparo, G. Giammona, M. Licciardi, F. S. Palumbo, G. Pitarresi

*Nanotech IT New Letter*, 11, 9-12, 2009

90) New Pegylated Polyaspartamide Based Polyplexes as Gene Delivery Vectors

G. Cavallaro, M. Licciardi, S. Scirè, M. Di Stefano, G. Giammona

*Nanomedicine*, 5 (2) 243-258 (2010)

91) CURRENT STRATEGIES TO IMPROVE THE EFFICACY AND THE DELIVERY OF NUCLEIC ACID BASED DRUGS

Grassi M, Cavallaro G, Scirè S, Scaggiante B, Dapas B, Farra R, Baiz D, Giansante C., Guarnieri G, Perin D, Grassi G.

*Current Signal Transduction Therapy*, , 5 (2) 92-120, 2010.

92) NEW SELF-ASSEMBLING POLYASPARTHYDRAZIDE COPOLYMER MICELLES

M. Licciardi, G. Cavallaro, M. Di stefano, G. Pitarresi , C. Fiorica, G. Giammona,

*Int. J. Pharm.* 396, 219-228, 2010.

93) Nanoparticles based on novel amphiphilic polyaspartamide copolymers”

E. F. Craparo, G. Teresi, M. C. Ognibene, M. P. Casaletto, M. L. Bondi G. Cavallaro,

*J. Nanoparticle Research* 12, 2629-2644, 2010.

94) MULTICOMPONENT POLYMERIC MICELLES BASED ON POLYASPARTAMIDE AS TUNABLE FLUORESCENT PH-WINDOW

Yuri Antonio Diaz-Fernandez, Elisa Mottini, Luca Pasotti, Emanuela Fabiola Craparo, Gaetano Giammona, Gennara Cavallaro, Piersandro Pallavicini

*Biosensors and Bioelectronics*, 26, 29-35, 2010

95) folate-targeted supramolecular vesicular aggregates based on polyasparthyl-hydrazide copolymers for the selective delivery of antitumor drugs

M. Licciardi, D. Paolino, C. Celia, G. Giammona, G. Cavallaro, M. Fresta

*Biomaterials*, 31 (28) 7340-7354, 2010

96) polyaspartamide-graft-polymethacrylate NANOPARTICLES FOR DOXORUBICINE delivery

M. Licciardi, G. Cavallaro, M. Di Stefano, C. Fiorica, G. Giammona

*Macromol. Biosci.* 11, 445-454, 2011.

97) PHOSPHOLIPID- POLYASPARTAMIDE MICELLES FOR PULMONARY DELIVERY OF CORTICOSTEROIDS



E. F. Craparo, G. Teresi, M. L. Bondi', M. Licciardi, G. Cavallaro

*Int. J. Pharm.* 406 (1-2) 135-144, 2011.

98) A FLUORESCENT MOLECULAR SENSOR FOR PH WINDOWS IN TRADITIONAL AND POLYMERICBIOCOMPATIBLE MICELLES: COMICELLIZATION OF ANIONIC SPECIES TO SHIFT AND RESHAPE THE ON WINDOW

Gennara Cavallaro, Gaetano Giammona, Luca Pasotti, and Piersandro Pallavicini

*Chem. Eur. J.* 17 (38) 10574-10582 , 2011.

99)MACROMOLECULAR PRODRUGS BASED ON SYNTHETIC POLYAMINOACIDS: DRUG DELIVERY AND DRUG TARGETING IN ANTITUMOR THERAPY

Gennara Cavallaro, Giovanna Pitarresi and Gaetano Giammona

## ***Current Topic in Medicinal Chemistry, 11 (18)*** **2382-2389, 2011**

100) nanoparticulate systems for drug delivery and targeting to the central nervous systems

e. F. craparo, M. L. Bondi', G. Cavallaro

*Cns neuroscience & therapeutics*, 17, 670-677, 2011

101) NEW COPOLYMERS GRAFT OF , -POLY(N-2-HYDROYETHYL)-D,L-ASPARTAMIDE OBTAINED FROM ATOM TRANSFER RADICAL POLYMERIZATION SUCH AS VECTORS FOR GENE DELIVERY

M. Licciardi, G. Cavallaro, G. Amato, C. Fiorica and G. Giammona

*React. Funct. Polymers* 72 (2012) 268-278.

102) Peculiar Mechanism of Solubilization of a Sparingly Water

Maria Liria Turco Liveri, Mariano Licciardi, Luciana Sciascia, Gaetano Giammona,

and Gennara Cavallaro

*J. Phys. Chem.* 116 (2012) 5037-5046.

103) ENTRAPMENT OF Ab1-40 PEPTIDE IN UNSTRUCTURED AGGREGATE

C. Corsale, R. Carrotta, M. R. Mangione, S. Vilasi, A. Provengano, G. Cavallaro, D. Bulone and P. L. San Biagio

*J. Physics: Condensed Matter, Special issue: Physics and biology of neurodegenerative diseases*, 24 (2012) 244103 (7pp)

104) phea-GRAFT-POLYBUTYLMETHACRYLATE COPOLYMER MICROPARTICLES FOR DELIVERY OF HYDROPHOBIC DRUGS

M. Licciardi, M. Di Stefano, E. F. Craparo, G. Amato, G. Fontana, G. Cavallaro, G. Giammona

*Int. J. Pharm.* 433 (2012), pp. 16-24.

105) FOLATE – TARGETED SUPRAMOLECULAR VESICULAR AGGREGATES AS A NEW FRONTIER FOR EFFECTIVE ANTICANCER TREATMENT: *IN VIVO VERITAS*

D. Paolino, M. Licciardi, C. Celia, G. Giammona, M. Fresta, G. Cavallaro

*Eur. J. Pharm. Biopharm.* 82 (2012), 94-102.

106) Novel Composed Galactosylated Nanodevices Containing a Ribavirin Prodrug as Hepatic Cell-Targeted Carriers for HCV Treatment

E. F. Craparo, G. Teresi, M. Licciardi, M. L. Bondi and G. Cavallaro

*J. Biomed. Nanotech.* 9, (2013) 1107-1122 2013, doi:10.1166/jbn.2013.1608.

107) Cell Uptake Enhancement of Folate Targeted Polymer

Coated Magnetic Nanoparticles

M.Licciardi, C. Scialabba, G. Cavallaro, C.Sangregorio, E. Fantechi, and G. Giammona

*J. Biomed. Nanotech.* 9, (2013) 949-964 (16 pp) 2013, doi:10.1166/jbn.2013.1606.

108) PHEA-graft-polymethacrylate supramolecular aggregates for protein oral delivery

M. Licciardi, G. Pasut, G. Amato, C. Scialabba, A.Mero, M. Montopoli, G. Cavallaro, O. Schiavon, G. Giammona

*Eur. J. Pharm. Biopharm.* 2013, 84, 21-28. doi.org/10.1016/j.ejpb.2012.12.011

109) Nanoaggregates Based on New Poly-Hydroxyethyl-Aspartamide Copolymers for Oral Insulin Absorption

M. Licciardi, G. Pitarresi, G. Cavallaro and G. Giammona

*Mol. Pharm.* 2013, 10 (5) 1644-1654, doi.org/10.1021/mp300226d

110) GALACTOSYLATED MICELLES FOR A RIBAVIRIN PRODRUG TARGETING TO HEPATOCYTES

E. F. Craparo, D. Triolo, G. Pitarresi, G. Giammona, G. Cavallaro.

*Biomacromolecules*, 14 (2013) 1838-1849, 10.1021/bm4002409

111) AMPHIPHILIC COPOLYMERS BASED ON POLY [(HYDROXYETHYL) $\alpha$ -D,L-ASPARTAMIDE: A SUITABLE FUNCTIONAL COATING FOR BIOCOMPATIBLE GOLD NANOSTARS,

G. Cavallaro, D. Triolo, M. Licciardi, G. Giammona, G. Chirico, L. Sironi, G. Dacarro, A. Dona, C. Milanese, and P. Pallavicini

*Biomacromolecules*, 14 (2013) 4260-4270.

## 112) MONTMORILLONITE NANODEVICES FOR THE COLON METRONIDAZOLE DELIVERY.

[Calabrese I](#), [Cavallaro G](#), [Scialabba C](#), [Licciardi M](#), [Merli M](#), [Sciascia L](#), [Turco Liveri ML](#).

*Int. J. Pharm.* 457 (1), (2013) 224-36.

## 113) POLYMERIC NANOCARRIERS FOR MAGNETIC TARGETED DRUG DELIVERY: PREPARATION, CHARACTERIZATION, AND IN VITRO AND IN VIVO EVALUATION

[Mariano Licciardi](#), [Cinzia Scialabba](#), [Calogero Fiorica](#), [Gennara Cavallaro](#), [Giovanni Cassata](#), and [Gaetano Giammona](#)

*Mol. Pharmaceutics*, 2013, 10 (12), pp 4397–4407

### 113) GALACTOSYLATED POLYMERIC CARRIERS FOR LIVER TARGETING OF SORAFENIB

E. F. Craparo, C. Sardo, R. Serio, M. G. Zizzo, M. L. Bondì , G.Giammona, G. Cavallaro,

*Int. J. Phrm.* 466 (2014) 172-180 .

### 114) SYNTHESIS AND CHARACTERIZATION OF POLYASPARTAMIDE COPOLYMERS

OBTAINED BY ATRP FOR NUCLEIC ACID DELIVERY

G. Cavallaro, M. Licciardi, G. Amato, C. Sardo, G. Giammona, R. Farra, B. Dapas, M. Grassi, G. Grassi, *Int. J. Pharm.* 466 (2014) 246-257.

### 115) AMPHIPHILIC INULIN GRAFT CO-POLYMERS AS SELF-ASSEMBLING MICELLES FOR DOXORUBICIN DELIVERY

M. Licciardi, C. Scialabba, C. Sardo, G. Cavallaro and G. Giammona, *J. Mater. Chem. B*, DOI:10.1039/C4TB00235K, *J. Mater. Chem. B*, 2, (2014) 4262-4271.

116) NANOCARRIERS FOR RESPIRATORY DISEASES TREATMENT: RECENT ADVANCES AND CURRENT CHALLENGES

A. Trapani<sup>1</sup>, S. Di Gioia, S. Castellani, A. Carbone, G. Cavallaro, G. Trapani and M. Conese

*Current Topics in Medicinal Chemistry*, 2014, 14, 1133-1147

## **117) WHEN FUNCTIONALIZATION OF PLA SURFACES MEETS THIOL-YNE PHOTOCHEMISTRY: CASE STUDY WITH ANTIBACTERIAL POLYASPARTAMIDE DERIVATIVES.**

**C. Sardo, B. Nottelet, D. Triolo, G. Giammona, V. Flaud, X. Garric, JP-Lavigne, G. Cavallaro, J. Coudane, *Biomacromolecules*, 15(11) 2014; 4351-62.**

118) EFFECTS IN CIGARETTE SMOKE STIMULATED BRONCHIAL EPITHELIAL CELLS OF A CORTICOSTERID ENTRAPPED INTO NANOSTRUCTURED LIPID CARRIERS

M. L. Bondi, M. Ferraro, S. Di Vincenzo, S. Gerbino, G. Cavallaro, G. Giammona, C. Botto, M. Gjomarkaj, E. Pace

*J. NanoBiotechnology* 12 (2014), 46-.

119) BISPHOSPHONATE-POLYASPARTAMIDE CONJUGATES AS POLYMERIC CARRIERS FOR BONE DRUG TARGETING

Paolino, D.; Licciardi, M.; Celia, C.; Giammona, Gaetano; Fresta, Massimo; Cavallaro, Gennara, *J. Mat Chem B*, 3, 2015, 250-259.

120 ) EVALUATION OF BIODEGRADABILITY ON POLYSPARTAMIDE-POLYLACTIC ACID BASED NANOPARTICLES BY CHEMICAL HYDROLYSIS STUDIES POLYMER DEGRADATION AND STABILITY

E. F. Craparo, B. Porsio, M.L. Bondi, G. Giammona, G. Cavallaro

*Polymer Degradation and Stability* 119, 2015, 56 -67.

121) POLYASPARTAMIDE-POLYLACTIDE GRAFT COPOLYMERS WITH TUNABLE PROPERTIES FOR THE REALIZATION OF FLUORESCENT NANOPARTICLES FOR IMAGING

E. F. Craparo, B. Porsio, N. Mauro, G. Giammona, G.Cavallaro

*Macromol. Rapid Communications*, 2015, DOI: 10.1002/marc.201500154,

122) GOLD NANOSTARS COATED WITH NEUTRAL AND CHARGED POLYETHYLENE GLYCOLS: A COMPARATIVE STUDY OF IN VITRO BIOCOMPATIBILITY AND ON THEIR INTERACTION WITH SH-SY5Y NEUROBLASTOMA CELLS

P. Pallavicini, E. Cabrini, G. Cavallaro, G. Chirico, M. Collini, L. D'Alfonso, G. Dacarro, A. Donà, N. Marchesi, C. Milanese, A. Pascale, L. Sironi, A. Taglietti

*J. Inorganic Biochemistry* , doi: 10.1016/j.jinorgbio.2015.05.002

123) INULIN-ETHYLENEDIAMINE COATED SPIONS MAGNETOPLEXES: A PROMISING TOOL FOR IMPROVING SIRNA DELIVERY

M. Licciardi, A. Li Volsi, C. Sardo, N. Mauro, G. Cavallaro, G. Giammona

*Molecular Research* 2015, DOI 10.1007/s11095-015-1726-y

124) SORAFENIB IN MICE – A PHARMACOKINETIC STUDY, Roberto A. Abbiati, Gennara Cavallaro, Emanuela F. Craparo, Davide Manca,

*Chem. Eng. Transactions Submitted* 2015, 43, 283 – 288, DOI: 10.3303/CET1543048

125) POLYMERIC FLUORESCENT NANOPARTICLES BASED ON A POLYASPARTAMIDE FOR THE EVALUATION OF GALACTOSE ACTIVE TARGETING ON HEPG2 CELLS E. F. Craparo, M. Licciardi, A. Conigliaro, F. S. Palumbo, G. Giammona , R. Alessandro , G. De Leo, G. Cavallaro, *Polymer* 2015, 70, 257-270, dx.doi.org/10.1016/j.polymer.2015.06.009

126) CATIONIC POLYASPARTAMIDE-BASED NANOCOMPLEXES MEDIATE siRNA ENTRY AND DOWN-REGULATION OF THE PRO-INFLAMMATORY MEDIATOR HIGH MOBILITY GROUP BOX 1 IN AIRWAY EPITHELIAL CELLS

Sante Di Gioia, Carla Sardo, Giuliana Belgiovine, Daniela Triolo, Maria d'Apolito, Stefano Castellani, Annalucia Carbone, Ida Giardino, Gaetano Giammona, Gennara Cavallaro, Massimo Conese, *Int. J. Pharm.* 2015, 491, 359-366.

127) NANOCOMPLEXES FOR GENE THERAPY OF RESPIRATORY DISEASES: TARGETING AND OVERCOMING THE MUCUS BARRIER

Sante Di Gioia , Adriana Trapani, Stefano Castellani, Annalucia Carbone,

Giuliana Belgiovine, Emanuela Fabiola Craparo, Giovanni Puglisi, Gennara Cavallaro,

Giuseppe Trapani, Massimo Conese

*Pulm. Pharm. & Ther.*, 2015, 34, 8-24.

128) BIOTIN-CONTAINING GRAPHENE -INULIN NANOSYSTEM AS MULTI-EFFECT ANTICANCER AGENT:COMBINING HYPERTHERMIA WITH TARGETED CHEMOTHERAPY

N. Mauro, C. Scialabba, G. Cavallaro, M. Licciardi, G. Giammona

*Biomacromolecules*, 2015, 16 (9), pp 2766–2775.

129) INULIN DERIVATIVES OBTAINED VIA ENHANCED MICROWAVE SYNTHESIS FOR NUCLEIC ACID BASED DRUG DELIVERY,

C. Sardo, E. F. Craparo, C. Fiorica, G. Giammona and G. Cavallaro,

*Current Drug Targets*, 2015 , 16, 1650 – 1659.

131) DEVELOPMENT OF A SIMPLE; BIOCOMPATIBLE AND COST-EFFECTIVE INULIN-DIETHYLENTRIAMINE BASED siRNA DELIVERY SYSTEM

C. Sardo, R. Farra, M. Licciardi, C. Scailabba, G. Giammona, M. Grassi, G. Grassi, G. Cavallaro.

*Eur. J. Pharm Sci.* 2015, 65, 60-71.

132) PEGYLATED POLYASPARTAMIDE–POLYLACTIDE-BASED NANOPARTICLES PENETRATING CYSTIC FIBROSIS ARTIFICIAL MUCUS

Emanuela Fabiola Craparo, Barbara Porsio, Carla Sardo, Gaetano Giammona, Gennara Cavallaro

*Biomacromolecules.*, 2016, 17, 767-777.

133) PREPARATION AND CHARACTERIZATION OF INULIN COATED GOLD NANOPARTICLES FOR SELECTIVE DELIVERY OF DOXORUBICIN TO BREAST CANCER CELLS

Mariano Licciardi, Anna LiVolsi, Nicolò Mauro, Cinzia Scialabba, Gennara Cavallaro, and Gaetano Giammona

*Journal of Nanomaterials*, 2016, Volume 2016, 1-12. [doi.org/10.1155/2016/2078315](https://doi.org/10.1155/2016/2078315)

134) PHOTOTHERMAL ABLATION OF CANCER CELLS USING FOLATE-COATED GOLD/GRAPHENE OXIDE COMPOSITE

Nicolò Mauro, Anna Li Volsi, Cinzia Scialabba, Mariano Licciardi, Gennara Cavallaro, Gaetano Giammona, *Current Drug Delivery*, 2016

doi: 10.2174/1567201813666160520113804

135) IMPROVEMENTS IN RATIONAL DESIGN STRATEGIES OF INULIN DERIVATIVE POLYCATION FOR SIRNA DELIVERY

Carla Sardo, Emanuela Fabiola Craparo, Barbara Porsio, Gaetano Giammona, and Gennara Cavallaro

*Biomacromolecules*, 2016, 17 (7), pp 2352–2366, ACS Editors' Choice.

136 ) POLYANION-TOBRAMYCIN NANOCOMPLEXES INTO FUNCTIONAL MICROPARTICLES FOR THE



## TREATMENT OF *PSEUDOMONAS AERUGINOSA* INFECTIONS IN CYSTIC FIBROSIS

Emanuela Fabiola Craparo, Barbara Porsio, Domenico Schillaci, Maria Grazia Cusimano, Dario Spigolon, Gaetano Giammona, Gennara Cavallaro,

*Nanomedicine*, 2017, 12, 25-42.

## 137 ) POLYMERIC DRUG DELIVERY MICELLE-LIKE NANOCARRIERS FOR PULMONARY ADMINISTRATION OF BECLOMETHASONE DIPROPIONATE

Daniela Triolo, Emanuela Fabiola Craparo, Barbara Porsio, Calogero Fiorica, Gaetano Giammona, Gennara Cavallaro,

*Colloid and Surfaces B: Biointerfaces* 2017, 151, 2016-217.

## 138) GOLD NANOSTAR–POLYMER HYBRIDS FOR SIRNA DELIVERY: POLYMER DESIGN TOWARDS COLLOIDAL STABILITY AND IN VITRO STUDIES ON BREAST CANCER CELLS

Carla Sardo, Barbara Bassi, Emanuela F. Craparo, Cinzia Scialabba, Elisa Cabrini, Giacomo Dacarro, Agnese D'Agostino, Angelo Taglietti, Gaetano Giammona, Piersandro Pallavicini, Gennara Cavallaro

*Int. J. Pharm.* 2017, 15, 519 (1-2), 113-124

## 139) BIOCOMPATIBLE LIPID NANOPARTICLES AS CARRIERS TO IMPROVE CURCUMIN EFFICACY IN OVARIAN CANCER TREATMENT

Bondi, Maria; Emma, Maria Rita; Botto, Chiara; Augello, Giuseppa; Azzolina, Antonina; Di Gaudio Francesca ; Craparo, Emanuela; Cavallaro, Gennara; Bachvarov, Dimcho; Cervello, Melchiorre

*Journal of Agricultural and Food Chemistry* , 2017, 65, 1342–1352, DOI:10.1021/acs.jafc.6b04409.

## 140) NEAR-INFRARED LIGHT RESPONSIVE FOLATE TARGETED GOLD NANORODS FOR COMBINED PHOTOTHERMAL-CHEMOTHERAPY OF OSTEOSARCOMA

Li Volsi, Anna; Scialabba, Cinzia; Vetri, Valeria; Cavallaro, Gennara; Licciardi, Mariano; Giammona, Gaetano

*ACS Appl. Mater. Interfaces*, 2017, 9 (16), pp 14453–14469

141) GALACTOSYLATED POLYASPARTAMIDE COPOLYMERS FOR SIRNA TARGETED DELIVERY TO HEPATOCELLULAR CARCINOMA CELLS

G. Cavallaro, R. Farra, E.F. Craparo, C. Sardo, B. Porsio, G. Giammona, F. Perrone, M. Grassi, G. Pozzato, G. Grassi and B. Dapas

*Int. J. Pharm.* 2017, 525 (2), 397-406

142) MARGINATION OF FLUORESCENT POLYLACTIC ACID – POLYASPARTAMIDE BASED NANOPARTICLES IN MICROCAPILLARIES IN VITRO: THE EFFECT OF HEMATOCRIT AND PRESSURE

E. F. Craparo, R. D'Apolito, G. Giammona, G. Cavallaro and G. Tomaiuolo, *Molecules*, 2017, 22, 1845; doi:10.3390/molecules22111845.

143) POLYASPARTAMIDE-BASED NANOPARTICLES LOADED WITH FLUTICASONE PROPIONATE AND THE IN VITRO EVALUATION TOWARDS CIGARETTE SMOKE EFFECTS

E.F. Craparo, Maria Ferraro, Elisabetta Pace, M.L. Bondì, G. Giammona, G. Cavallaro. *Nanomaterials* 2017, 7(8) 222; DOI:10.3390/nano7080222.

## **144) NANO INTO MICRO FORMULATIONS OF TOBRAMYCIN FOR THE TREATMENT OF PSEUDOMONAS AERUGINOSA INFECTIONS IN CYSTIC FIBROSIS**

**B. Porsio, M.G. Cusimano, D. Schillaci, E. F. Craparo, G. Giammona, G. Cavallaro.**

*Biomacromolecules* 2017, 18, 3924–3935.

145) MUCUS AND CELL-PENETRATING NANOPARTICLES EMBEDDED IN NANO INTO MICRO FORMULATIONS FOR PULMONARY DELIVERY OF IVACAFTOR IN CYSTIC FIBROSIS

Porsio, B.; Craparo, E.F.; Mauro, N.; Giammona, G.; Cavallaro, G.

*ACS Appl. Mater. Interfaces*, 2018, 10 (1), pp 165–181.

**146) BRANCHED HIGH MOLECULAR WEIGHT GLYCOPOLYPEPTIDE WITH BROAD-SPECTRUM ANTIMICROBIAL ACTIVITY FOR THE TREATMENT OF BIOFILM RELATED INFECTIONS**

N. Mauro, D. Schillaci, P. Varvarà, M. G. Cusimano, D. M. Geraci, M. Giuffrè, G. Cavallaro, C. M. Maida, and G. Giammona

*ACS Appl. Mater. Interfaces*, 2018, 10 (1), pp 318–331.

**CAPITOLI DI LIBRI (MONOGRAFIE) E REVIEW**

**DELLA PROF.SSA GENNARA CAVALLARO**

1) SOLUBLE AND WATER-SWELLABLE POLYAMINOACIDIC DERIVATIVES AS DRUG CARRIERS

G. Pitarresi, G. Cavallaro, G. Giammona

In "RECENT RESEARCH DEVELOPMENTS IN MACROMOLECULES"

S. G. Pandalai, Ed., Research Signpost, India, 6, 1-35 (2002)

2) HYDROGELS BASED ON  $\alpha,\beta$ -POLY(N-2-HYDROXYETHYL)-DL- ASPARTAMIDE AND  $\alpha,\beta$ -POLYASPARTYLHYDRAZIDE FOR DRUG RELEASE

Cavallaro, G. Pitarresi, G. Giammona

"RECENT RESEARCH DEVELOPMENTS IN POLYMER SCIENCE"

G. Pandalai, Ed., Research Signpost, India, 6, 237-261 (2002)

3) SOLUBLE AND WATER-SWELLABLE POLYAMINOACIDIC CONSTRUCTS FOR DRUG DELIVERY

G. Cavallaro, G. Pitarresi, G. Giammona

D. W. Thomas (ed.) Advanced Biomaterials for Medical Applications, chapter 2 7-19, 2004, NATO ASI SERIES VOLUME.

4) FOLATE-MEDIATED TARGETING OF POLYMERS AS COMPONENTS OF COLLOIDAL DRUG DELIVERY SYSTEMS

G. Cavallaro, M. Licciardi, G. Pitarresi, G. Giammona

In "HANDBOOK OF DRUG TARGETING AND MONITORING"

Boris Andreev and Vasily Egorov, Eds., Nova Science Publishers, Inc. NY, pag. 165-178 (2010) ISBN: 978-1-60741-839-9

5) GALACTOSE-DECORATED POLYMERIC CARRIERS FOR HEPATOCYTE-SELECTIVE DRUG TARGETING, E. F. Craparo and Gennara Cavallaro, *Frontiers in Nanomedicine*, Volume 1, pag. 84 – 107, eISBN: 978-1-68108-046-8; ISBN: 978-1-68108-047-5, eISSN: 2405-9137, ISSN: 2405-9129, Eds M. Luisa Bondi, C. Botto, E. Amore, Bentham Books.

6) NOVEL LIPID AND POLYMERIC MATERIALS AS DELIVERY SYSTEMS FOR NUCLEIC ACID BASED DRUGS

Anna Angela Barba, Gaetano Lamberti, Carla Sardo, Barbara Dapas, Michela Abrami, Mario Grassi,, Rossella Farra, Federica Tonon, Giancarlo Forte, Francesco Musiani, Mariano Licciardi, Gabriele Pozzato, Fabrizio Zanconati, Bruna Scaggiante, Gabriele Grassi and Gennara Cavallaro *Current Drug Metabolism*, 2015, 16 (6) 427 – 452 , DOI: 10.2174/1389200216666150812142557

7) SMART INULIN-BASED POLYCATIONIC NANODEVICES FOR siRNA DELIVERY

G. Cavallaro, C. Sardo, C. Scialabba, M. Licciardi and G. Giammona

*Current Drug Delivery*, 2017, 14 (2), 224 – 230,

DOI: [10.2174/1567201813666160811145855](https://doi.org/10.2174/1567201813666160811145855)

8) FROM GENESIS TO REVELATION: THE ROLE OF INFLAMMATORY MEDIATORS IN CHRONIC RESPIRATORY DISEASES AND THEIR CONTROL BY NUCLEIC ACID-BASED DRUGS,

Sante Di Gioia, Carla Sardo, Stefano Castellani, Barbara Porsio, Giuliana Belgiovine, Annalucia Carbone, Gaetano Giammona, Gennara Cavallaro, Massimo Conese

*Current Drug Delivery*, 2017, 14, 234-252.

9) POLYMERIC NANOPARTICLES FOR SIRNA DELIVERY: PRODUCTION AND APPLICATIONS

Gennara Cavallaro, Carla Sardo, Emanuela Fabiola Craparo, Barbara Porsio e Gaetano Giammona

*Int. J. Pharm.*2017, 525, 313-333.



# PROF. G. CAVALLARO BREVETTI

1) INVENTORI : GIAMMONA G, CAVALLARO G, LICCIARDI M, CIVIALE C, PALADINO M.G, MAZZONE M.G. (2006). Composizione farmaceutica oftalmica contenente copolimeri anfifilici della poliaspartammide. MI2006A000494. SIFI S.P.A.

2) INVENTORI : GIAMMONA G, CAVALLARO G, LICCIARDI M, CIVIALE C, PALADINO M.G, MAZZONE M.G. (2007). An ophthalmic pharmaceutical composition containing amphiphilic polyaspartamide copolymers. WO 2007/108031. SIFI S.P.A.

3) INVENTORI : LICCIARDI M, GIAMMONA G, CAVALLARO G, PITARRESI G. (2007). Vettori colloidali a struttura poliamminoacidica per il rilascio orale di peptidi e proteine e relativo metodo di produzione. RM2007A000327. Università degli Studi di Palermo.

4) INVENTORI : LICCIARDI M, GIAMMONA G, CAVALLARO G, PITARRESI G (2008).

Colloidal vectors with polyaminoacid structure for oral release of peptides and proteins and method for their production. PCT/IT2008/000376. Università degli Studi di Palermo

5) INVENTORI : FRESTAMASSIMO, GIAMMONA GAETANO, CAVALLARO GENNARA, LICCIARDI, MARIANO, PAOLINO DONATELLA (2011)

Vettori polimerici della poliaspartammide coniugati a bisfosfonati per il direccionamento di farmaci alle ossa (2011), FI2011A000012, Università di Palermo (50 %) e Università Magna Graecia di Catanzaro (50 %).

6) INVENTORI : FRESTAMASSIMO, GIAMMONA GAETANO, CAVALLARO GENNARA, LICCIARDI, MARIANO, PAOLINO DONATELLA (2011)

Bisphosphonate-polyaspartamide conjugates as polymeric carriers for drug targeting to bones, 2012, WO2012098222 A1, Università di Palermo (50 %) e Università Magna Graecia di Catanzaro (50 %).

7) INVENTORI: A. BLANCO, G. CAVALLARO, G. GIAMMONA, M. LICCIARDI, G. PITARRESI, D. TROMBETTA

Amphiphilic copolymers their preparation and use for the delivery of drugs

International Application Number: PCT/EP2014/071648

8) INVENTORI: A. BLANCO, M.L. BONDÌ, G. CAVALLARO, G.M.L. CONSOLI, E.F. CRAPARO, G. GIAMMONA, M. LICCIARDI, G. PITARRESI

Silibinina per il trattamento delle patologie oculari neurodegenerative e formulazioni comprendenti nanostrutture per la sua veicolazione

Brevetto Italiano N° FI2014A000230 (depositato il 9 Ottobre 2014)

#### **NOTE DELLA PROF.SSA GENNARA CAVALLARO**

#### **PUBBLICATE SU RIVISTE SCIENTIFICHE**

##### **1.APPLICAZIONI DI NANOBIOLOGIE PER LA SALUTE**

Cavallaro G., Giammona G., Pitarresi G.

Technology Review 6, 77 (2006)



**INNOVATIVE POLYMER- AND LIPID-BASED NANOTECHNOLOGIES FOR DRUG AND NUCLEIC ACID**

G. Cavallaro, E.F. Craparo, G. Giammona, M. Licciardi, F.S. Palumbo, G. Pitarresi

NANOTEC IT NEWS LETTER N. 11 Marzo 2009 pp 9-12

**PRODOTTI MULTIMEDIALI A CONTENUTO SCIENTIFICO**

**DELLA PROF.SSA GENNARA CAVALLARO**

**1. BIOMATERIALI A BASE DI POLISACCARIDI E POLIAMMINOACIDI PER L'INGEGNERIA TISSUTALE**

Cavallaro G., Giammona G., Pitarresi G.

Pagina web del sito [www.riditt.it](http://www.riditt.it) (2006)

**2. NANOPARTICELLE POLIMERICHE PER IL RILASCIO DI MOLECOLE BIOATTIVE**

Cavallaro G., Giammona G., Pitarresi G.

Pagina web del sito [www.riditt.it](http://www.riditt.it) (2006)

**3. AGGREGATI POLIMERICI PER LA VEICOLAZIONE DI MOLECOLE BIOATTIVE**

Cavallaro G., Giammona G., Pitarresi G.

Pagina web del sito [www.riditt.it](http://www.riditt.it) (2006)

## **ATTIVITA' SCIENTIFICHE**

### **Publications (for details see the complete list)**

157 manuscripts published in peer to peer international journals

8 patents

More than 150 contributes on international proceedings and international congresses

8 Books and book chapters

### **Scientific Performance indicators (07/03/2018)**

Academic age 28 (1st publication in 1990)

Scopus (data base)

N° normalized manuscripts (157/28=5.60)

Hirsch Index = 31

Normalized cita

### **Invited speaker**

- Professional Course organized by UTIFARMA-Palermo, lecture entitled: "New Rules for the Administration of Analgesic Analgesic Drugs in Pain Therapy" (Law 12 February 2001, No. 12). Palermo, April 2001.

- 1st and 2nd edition of the conference entitled "The Official Italian Pharmacopoeia XI edition and the Rules of Good Preparation in Pharmacy", lecture entitled: "The rules of good preparation and certification of pharmacy preparations". Palermo, 12-13 October 2002.

- Course on the theme: "Technological Approaches for the Administration of Drugs Through Various Paths", lecture entitled: "The oral route and the different approaches for controlled release". Agrigento, 30 November - 1 December 2002.

- Conference entitled "The Official Italian Pharmacopoeia XI edition and the Rules of Good Preparation in pharmacy", lecture entitled: "The rules of good preparation and certification of preparations in pharmacies". Catania, 19 December 2002.

- NATO ADVANCED RESEARCH WORKSHOP: "Macromolecular approaches to advanced biomaterials engineering systems", lecture entitled "Soluble and water-swellaible polyaminoacidic constructs for drug delivery". SOFIA, Bulgaria, 8-11 November 2003.

- Annual Workshop CRS - Italy Chapter -Drug Targeting, lecture entitled "Polymeric and micellar carriers of a polyaspartamide for drug targeting". Padua, 2004.

- 1st Innovation in Drug Delivery: From Biomaterials to Devices, lecture entitled: "Interpolyelectrolyte complexes based on polyaminoacids for gene and oligonucleotide delivery". Naples, September 2007.

- Third International Summer School in Advanced Biotechnology, lecture entitled "Non viral colloidal vectors based on polyaminoacids for gene therapy". Palermo, August 2008.

- 2008 conference GRICU - Chemical Engineering: the new challenges, lecture entitled: "Use of polyamide-based polyamide-based carriers for the delivery of siRNA in the treatment of in-stent restenosis". Crotone, September 2008.

- NANOMED Workshop "From Nanomedicine to Brain Imaging. The new frontiers of Nanobiotechnologies", lecture entitled: "Polyaminoacid based polyplexes for gene delivery ". Science and Technology Park of Sardinia, Pula (Cagliari), April 2013.

- 4th Congress on Innovation in Drug Delivery, Site-Specific Drug Delivery, lecture entitled: "Polymeric nanodevices as delivery systems for nucleic acid based drugs?". Antibes-Juan-les-Pins, France. 25-28 September, 2016.

tions (3058/28=109.21)

## **AMBITI DI RICERCA**

### **Research lines**

Synthesis and characterization of new biocompatible polymers

Production of polymeric, oligosaccharide or lipid systems

Controlled and targeted release of biologically active substances (drugs, genes, proteins)

Drug Delivery Systems and Targeting – DDST for cancer therapy

Nanomedicine: polymeric micelles, polymeric nanoparticles, macromolecular prodrugs

Gene therapy: the production of cationic polymers as complexing agent for genetic material

Solid lipid nanoparticles (SLN), Nanostructured Lipid Carriers (NLC), Lipid Drug Conjugates (LDC)

Microparticles for inhalatory therapy

Nanotechnologies for Theranostics

Tissue engineering