

#### Scientific activity:

- New methodologies in pharmaceutical analysis:
  - determination of xenobiotics and their metabolites in biological fluids,
  - *in vitro* and *in vivo* stability studies of new prodrugs,
  - enantiomeric separation by HPLC of chiral drugs,
  - analysis of essential oil composition in natural products.
- - Synthesis and SAR (structure-activity relationships) studies of new drugs with likely biological activities:
  - synthesis and biological evaluation of new drugs with anti-inflammatory and analgesic activities,
  - synthesis and biological evaluation of new fungicidal and antibacterial drugs,
  - synthesis and biological evaluation of new drugs with antiproliferative activity,
  - synthesis and biological evaluation of new prodrugs as potential anticonvulsant, anti-HIV and anti-parkinson,
  - synthesis and aldose reductase inhibitory activities of novel thienocinnolinone derivatives,
  - synthesis and biological evaluation of new drugs with antiarrhythmic activity.

#### Research collaborations:

##### Research on synthesis and pharmacokinetic of new prodrugs:

- Naples University, Department of Pharmaceutical and Toxicological Chemistry,
- Salerno University, Department of Pharmaceutical Science.

##### Research on new methodologies in pharmaceutical analysis:

- Italian Advanced Health Institute (Roma), Department of Toxicological and Environmental Chemistry,
- Experimental Zooprophyllactic Institute of Sardinia, reference centre for biological cultures,
- ASL (Sassari), Operating Unit of Forensic Pathology (Hospital).
- CNR, Biomolecular Chemistry Institute (Sassari),.
- Bologna University, DIPROVAL (Reggio Emilia).
- Departamento de Química Analítica, Universidad de Córdoba (Spain)

#### Coordination of research projects:

- I. From 2000 to 2006 search party coordinator: financial support from the MURST ex 60%.
- II. Responsible for search party (8-EMS 8) in the “current research project” (IZS-SA 05/99): “synthesis, chemical determination and development of screening and confirmation methods of new growth promoters”, in collaboration with: Experimental Zooprophyllactic Institute of Sardinia and Italian Advanced Health Institute
- III. Responsible for search party (8-EMS 8) in the “current research project” (IZS-SA 05/99) “molecular determination and metabolic study of new growth promoters”, in collaboration with: Experimental Zooprophyllactic Institute of Sardinia and Italian Advanced Health Institute.
- IV. Responsible (Applicant) in the search project sponsored from Regione Sardinia ((L.R. 7/2007 Progetti di ricerca di base, Bando 2008) "In vivo pharmacokinetics studies on therapeutic forms for Thymol administration to little pigs in Salmonella Serovar Typhimurium care".

Referee of most important international reviews in Medicinal Chemistry and Pharmaceutical and Biomedical Analysis.

## Publications

- 1) G.Cignarella, D.Barlocco, A.Nuvole, **G.Boatto**. Benzo (C) Thiophene derivatives IV. Synthesis and disproportionation of 1,1',3,3' - tethahydro - 1,1'-dimethoxycarbonyl-1,1'-1,1'-dibenzo (C)thiophene. *Gazz. Chim. Ital.* 113, 777-781 (1983).
- 2) L. Conti, G. **Boatto**, N. Passarini. Coal oil mixture from a synthetic oil obtained by hydroliquefaction of a south african coal. *Fuel*, 64, 1317 - 1319 (1985).
- 3) R.Cerri, A.Pau, **G.Boatto**, F.Sparatore, M.Satta, F.Capasso. Nuovi derivati di 7-ammino-2,3-polimetilenindoli ad attività antiinfiammatoria. *Il Farmaco Ed. Sci.* 43 (1), 91-101 (1988).
- 4) R.Cerri, **G.Boatto**, A.Pau, F.Spartore, P.Manca. Attività analgesica di 7-ammino-2,3-polimetilenindoli e loro congeneri. *Il Farmaco Ed. Sci.* 43 (2), 113 123 (1988).
- 5) R.Cerri, **G.Boatto**, A.Pau, F.Sparatore, L.Cima, M.Carrara, M.Satta. Formamidines with antinociceptive and antiinflammatory activities. *Il Farmaco* 46 (2), 369-378 (1991).
- 6) **G.Boatto**, R.Cerri, M.Palomba, A.Pau, M.Nicolai, F.Sparatore, M.P.Demontis. Amides and formamidines with antinociceptive activity (Note I). *Il Farmaco* 48 (9), 1279-1289 (1993).
- 7) A.Pau, **G.Boatto**, R.Cerri, M.Palomba, M.Nicolai, F.Sparatore, M.V.Varoni. Amides and formamidines with antinociceptive activity (Note II). *Il Farmaco* 48 (9), 1291-1299 (1993).
- 8) **G.Boatto**, G.Pintore, M.Palomba, F.De Simone, E.Ramundo, C.Iodice. Composition and antibacterial activity of Inula helenium and Rosmarinus officinalis essential oils. *Fitoterapia* 65 (3), 279-280 (1994).
- 9) M.Palomba, G.Pintore, **G.Boatto**, B.Asproni, R.Cerri, A.Pau, A.Farris. Fungicidal activity of some o-nitrophenil-hidrazones. *Il Farmaco*, 51(1), 79 - 84 (1996).
- 10) A. Pau, R. Cerri, **G. Boatto**, M. Palomba, G. Pintore, W. Filippelli, G. Falcone, F. Palagiano, F. Rossi. Synthesis of Amides with anti-inflammatory and analgesic activities. *Il Farmaco*, 52 (2), 93 - 98 (1997).
- 11) A. Pau, **G. Boatto**, R. Cerri, F. Palagiano, W. Filippelli, G. Falcone, E. Lampa. Synthesis of 1-methyl -4-(N-aroyl)-piperidinamides with anti-inflammatory and analgesic activities. *Il Farmaco* 53, 233 - 240 (1998).
- 12) **G. Boatto**, R. Cerri, A. Pau, M. Palomba, G. Pintore, M.G. Denti. Monitoring of benzylpenicillin in ovine milk by HPLC. *J. of Pharm. And Biomed. Analysis* 17, 733-738, (1998).
- 13) **G. Boatto**, A. Pau, M. Palomba, L. Arenare, R. Cerri. Monitoring of oxytetracycline in ovine milk by HPLC. *J. of Pharm. And Biomed. Analysis* 20, 321-326 (1999).
- 14) A. Pau, **G.Boatto**, M. Palomba, B. Asproni, R. Cerri, F. Palagiano, W. Filippelli, G. Falcone, G. Motola. "Synthesis of N-[4-(Alkyl)cyclohexyl]-substituted benzamides with anti-inflammatory and analgesic activities". *Il Farmaco* 54, 524 - 532 (1999).
- 15) A. Becciu, **G.Boatto**, M.G. Moretti, A. Pau, L. Auzzas, M. Palomba. "Metodo spettrofotometrico per la determinazione della concentrazione ottimale di  $Ca^{+2}$  e  $HPO_4^{-2}$  nella preparazione di sacche per nutrizione parenterale totale". *Bollettino SIFO* 46 (1), 9 - 13 (2000).
- 16) M. Palomba, A. Pau, **G.Boatto**, B. Asproni, L. Auzzas, R. Cerri, L. Arenare, W. Filippelli, G. Falcone and G. Motola. "Anti-inflammatory and Analgesic Amides: New Developments". *Arch. Pharm. Pharmaceutical and Medicinal Chem.*, 333, 17 - 26, (2000).
- 17) L. Auzzas, M. Palomba, **G.Boatto**, P. Manconi, A. Pau, A. Becciu, R. Cerri, V. Tullio, J. Roana, N. Carlone. "Antidermatophytic action of new 1-naphthylmethyl and benzo[b] thiophen-7-ylmethyl hydrazones related to inhibitors of squalene epoxidase. *Die Pharmazie*, 55 (7), 483 - 489, (2000).
- 18) A.Pau, B. Asproni, **G. Boatto**, M. Palomba, R. Cerri, M.G. Rimoli, W. Filippelli, G. Falcone. "Synthesis of substituted N1-4-piperidyl-N1-3-pyridyl-amides with antiarrhythmic activity Note 1". *Die Pharmazie* 55 (12), 892 - 895 (2000)

- 19) A. Pau, **G. Boatto**, B. Asproni, M. Palomba, L. Auzzas, R. Cerri, F. Palagiano, W. Filippelli, G. Falcone, G. Motola. "Synthesis of N-[4(-propyl)cyclohexyl]-amides with anti-inflammatory and analgesic activities". *Il Farmaco*. 55 (6-7), 439 – 447 (2000).
- 20) F. P. Bonina, L. Arenare, R. Ippolito, **G. Boatto**, G. Battaglia, V. Bruno and P. De Caprariis. "Synthesis, Pharmacokinetics and anticonvulsant activity of 7-chlorokynurenic acid prodrugs". *Int. J. of Pharm.*, 202 (1 – 2), 79 – 88 (2000).
- 21) F. Franconi, M. Miceli, L. Alberti, **G. Boatto**, R. Coinu, M.G. De Montis, A. Tagliamonte. "Effect of gamma-hydroxybutyric acid on human platelet aggregation in vitro". *Thromb. Res.* 102 (3), 255 – 260 (2001).
- 22) S. Saccabusi, **G. Boatto**, B. Asproni, A. Pau. "Sensitization to methyl methacrylate present in the plastic catheter from an insulin pump infusion set. *Contact Dermatitis* 45 (1), 47 – 48 (2001).
- 23) M. Fiori, G. Brambilla, B. Neri, F. Busico, R. Cozzani, C. Testa, **G. Boatto**. "High resolution gas chromatography-mass spectrometry determination of N1-(2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl)-N1-isopropyl-propanamide, a new clenbuterol-like substance in bovine specimen". *Advances in Mass Spectrometry volume 15 edited by E. Gelpi, John Wiley & Sons LTD*, 577 – 578 (2001).
- 24) B. Neri, R. Cozzani, M. Di Pietrogioacomo, G. Brambilla, M. Fiori, C. Testa, **G. Boatto**. "High resolution gas chromatography-mass spectrometry EI and CI for identification and characterization of N1-(2-(4-amino-3,5-dichlorophenyl)-2-hydroxyethyl)-N1-isopropyl-propanamide, a new clenbuterol-like substance". *Advances in Mass Spectrometry volume 15 edited by E. Gelpi, John Wiley & Sons LTD*, 587 – 588 (2001).
- 25) G. Pintore, M. Usai, P. Bradesi, C. Juliano, **G. Boatto**, F. Tomi, M. Chessa, R. Cerri and J. Casanova. "Chemical composition and antimicrobial activity of *Rosmarinus officinalis* L. oils from Sardinia and Corsica". *Flav. And Fragr. Journal* 17 (1), 15 – 19 (2002).
- 26) **G. Boatto**, M.V. Faedda, A. Pau, B. Asproni, S. Menconi, R. Cerri. "Determination of Amphetamines in human whole blood by capillary electrophoresis with photodiode array detection". *J. of Pharm. And Biomed. Analysis* 29 (6), 1073-1080 (2002).
- 27) F. Bonina, C. Puglia, M.G. Rimoli, L. Avallone, E. Abignente, **G. Boatto**, M. Nieddu, R. Meli, M. Amorena, P. de Caprariis. "Synthesis and in vitro chemical and enzymatic stability of glycosyl 3' – azido – 3' – deoxythymidine derivatives as potential anti-HIV agents". *Eur. Jour. of Pharm. Sci.* 16, 167 – 174 (2002).
- 28) G. Pintore, M. Usai, P. Bradesi, C. Juliano, **G. Boatto**, F. Tomi, M. Chessa, R. Cerri and J. Casanova. "Volatile constituents of different plant parts of *Chamomilla recutita* L. Rausch grown in the Indo-Gangetic plains". *Flav. And Fragr. Journal* 17 (1), 9 – 12 (2002).
- 29) F. Bonina, C. Puglia, M.G. Rimoli, D. Melisi, **G. Boatto**, M. Nieddu, A. Calignano, G. Rana and P. de Caprariis. "Glycosil derivatives of Dopamine and L-Dopa as potential anti-parkinson prodrugs: synthesis pharmacological activity and in vitro stability studies". *J. of Drug Targeting* 11 (1), 25 – 36 (2003).
- 30) A. Carta, **G. Boatto**, G. Paglietti, G. Poni, M.G. Setzu, P. Caredda. "Synthesis and Biological Evaluation of Triazolo[4,5-g]Quinolines, Imidazo[4,5-g]Quinolines and Pyrido[2,3-g]Quinoxaline. Part II". *Heterocycles* 60 (4), 833 – 842 (2003).
- 31) G. Mazzanti, C. Daniele, **G. Boatto**, G. Manca G. Brambilla and A. Loizzo. "New  $\beta$ -adrenergic agonists used illicitly as growth promoters in animal breeding: chemical and pharmacodynamic studies". *Toxicology* 187 (2.- 3), 91 – 99 (2003).
- 32) **G. Boatto**, M. Nieddu, A. Carta, G. Chessa, M. V. Faedda, and R. Cerri. "Supercritical fluid extraction and gaschromatographic detection of p,p1-DDE and PCBs in some samples of dying species from Sardinian country". *Fresenius. Env. Bull.* 12 (5), 435 – 441 (2003).
- 33) **G. Boatto**, M. Nieddu, M.V. Faedda, P. de Caprariis. "Enantiomeric separation by HPLC of 1,4 dihydropyridines with vancomycin as chiral selector". *Chirality* 15, (6), 494 – 497 (2003).

- 34) C. Saturnino, M.F. Buonerba, **G. Boatto**, M. Pascale, O. Moltedo, L. De Napoli, D. Montesarchio, J.C. Lancelot, P. de Caprariis. "Synthesis and Preliminary Biological Evaluation of a New Pyridocarbazole Derivative Covalently Linked to a Thymidine Nucleoside as a Potential Targeted Antitumoral Agent. *Chem. Pharm. Bull.* 51, (8), 971 – 974 (2003).
- 35) **G. Boatto**, M. Nieddu, A. Carta, A. Pau, S. Lorenzoni, P. Manconi, D. Serra. "Determination of Phenol and o-Cresol by GC/MS in a fatal poisoning case". *Forensic Science International* 139, 191 – 194 (2004).
- 36) A. Pau, B. Asproni, **G. Boatto**, G.E. Grella, P. De Caprariis, L. Costantino, G.A. Pinna. "Synthesis and aldose reductase inhibitory activities of novel thienocinnolinone derivatives". *Eur. Jour. of Pharm. Sci.* 21, 545 – 552 (2004).
- 37) A. Carta, M. Palomba, **G. Boatto**, B. Busonera, M. Murreddu, R. Loddo. "Synthesis and antiproliferative activity of 3-aryl-2-[1H(2H)-benzotriazol-1(2)-yl]acrylonitriles variously substituted: Part 4" *Il Farmaco* 59, 637 - 644 (2004).
- 38) **G. Boatto**, M. Nieddu, A. Carta, A. Pau, M. Palomba, B. Asproni, R. Cerri "Determination of amphetamine-derived designer drugs in human urine by SPE extraction and Capillary Electrophoresis with Mass Spectrometry Detection". *J. of Chromat. B*, 814, 93 - 98 (2005).
- 39) G. Pintore, M. Chessa, **G. Boatto**, R. Cerri, M. Usai, B. Tirillini. "Essential oil composition of *Hypericum perforatum* L. var. *angustifolium* DC Growing Wild in Sardinia (Italy)". *J. Essent Oil Res* 17, 533 – 535 (2005).
- 40) A. Carta, S. Piras, **G. Boatto**, G. Paglietti. "1H,6H-triazolo[4,5-e]benzotriazole-3-oxides and 5,5'-(Z)-diazene-1,2-diylbis(2-methyl-2H-1,2,3-benzotriazole) derived from chloronitrobenzotriazoles hydrazine." *Heterocycles* 65 (10), 2471 – 2481 (2005).
- 41) M. Nieddu, **G. Boatto\***, A. Carta, A. Sanna, M. Pisano. "Simultaneous determination of ten amphetamine designer drugs in human whole blood by capillary electrophoresis with diode array detection". *Biomedical Chromatography* 19 (10), 737 – 742 (2005).
- 42) A. Pau, B. Asproni, G. Murineddu, **G. Boatto**, G.E. Grella, D. Rakowitz, L. Costantino and G. A. Pinna. "Thienocinnolinone alkanolic acid derivatives as aldose reductase inhibitors". *Medicinal Chemistry* 2, 39 – 45 (2006).
- 43) A. T. Peana, P. Rubattu, G.G. Piga, S. Fumagalli, **G. Boatto**, P. Pippia, M. G. De Montis. "Involvement of adenosine A1 and A2A receptors in (–)-linalool-induced antinociception". *Life Sciences* 78, 2471 – 2474 (2006).
- 44) M. Nieddu, **G. Boatto**, L. Sini, G. Dessì. "Determination of p-methoxyamphetamine by capillary electrophoresis with diode array detection from urine and plasma samples." *Journal of Liquid Chromatography & Related Technologies* 30, 431 – 438 (2007).
- 45) **G. Boatto**, N. Culeddu, C. Testa, B. Neri G. Brambilla, J. Barbosa, C. Cruz. "Identification of a probable new adrenergic agonist by nuclear magnetic resonance and mass spectrometry". *Analytica Chimica Acta* 586, 223 – 227 (2007).
- 46) M. Nieddu, **G. Boatto\***, G. Dessì "Dermination of 4-Alkyl 2,5 dimethoxy-amphetamine derivatives by Capillary Electrophoresis with mass spectrometry detection from urine samples" *J. of Chromat. B*, 852, 578 - 581 (2007).
- 47) **G. Boatto\***, M. Nieddu, G. Dessì, P. Manconi, R. Cerri. "Dermination of four thiophenethylamine designer drugs (2C-T-series) in human plasma by Capillary Electrophoresis with mass spectrometry detection" *J. of Chromat. A*, 1159, 198 - 202 (2007).
- 48) C. Puglia, R. Filosa, A. Peduto, P. de Caprariis, **G. Boatto**, M. Nieddu, N. A. Santagati, F. Bonina. "Synthesis, physicochemical propertis and *in vitro* permeation studies of new Ketorolac esters derivatives". *Current Drug Delivery*, 4, 205 – 210 (2007).
- 49) M. Nieddu, **G. Boatto\***, D. Serra, A. Soro, S. Lorenzoni, F. Lubinu. "HPLC-DAD determination of mepivacaina in cerebrospinal fluid from a fatal case". *J. Forensic Sci.*, 52 (5), 1223 – 1224 (2007).

- 50) **G. Boatto\***, M. Nieddu, M.A. Pirisi, G. Dessì. “Simultaneous determination of new thioamphetamine designer drugs in plasma by capillary electrophoresis couplet with mass spectrometry”. *Rapid Comm. in Mass Spectrom.*, 21, 3716 – 3720 (2007).
- 51) L.A. Ruocco, D. Viggiano, A. Viggiano, E. Abignente M.G. Rimoli, D. Melisi, A. Curcio, M. Nieddu, **G. Boatto**, E. Carboni, U.A. Gironi-Carnevale, A.G. Sadile. “Galactosilated dopamine enters into the brain, blocks mesocorticolimbic system and modulates activity and scanning time in Naples high excitability rats.”. *Neuroscience*, 152, 234 – 244 (2008).
- 52) M. Nieddu, **G. Boatto**, M.A. Pirisi, E. Azara M. Marchetti. “LC-MS analysis of trimethoxyamphetamines designer drugs (TMA series) from urine samples”. *J. of Chromat. B*, 867, 126 - 130 (2008).
- 53) A. Curcio, O. Sasso, D. Melisi, M. Nieddu, G. La Rana, R. Russo, E. Gavini, **G. Boatto**, E. Abignente, A. Calignano, M. G. Rimoli. “Galactosyl Prodrug of Ketorolac: Synthesis, Stability, and Pharmacological and Pharmacokinetic Evaluations”. *J. Med. Chem.*, 52, 3794 – 3800 (2009).
- 54) D. Melisi, F. Rosso, A. Curcio, C. Tortora, M. Nieddu, G. Marino, M. Lettieri, A. Grimaldi, E. Luongo, S. Romano, M. F. Romano, **G. Boatto**, E. Abignente, A. Barbarisi, M. G. Rimoli. “Galactosyl Derivative of N<sup>ω</sup>-Nitro-L-Arginine: Study of Antiproliferative Activity on Human Thyroid Follicular Carcinoma Cells”. *J. Cell. Physiol.* 221, 440 – 447, (2009).
- 55) M. Nieddu, **G. Boatto\***, M. A. Pirisi, E. Baralla. “Multi-Residue Analysis of eight Thioamphetamine Designer Drugs in Human Urine by Liquid Chromatography/Tandem Mass Spectrometry”. *Rapid Commun. Mass Spectrom.* 23, 3051 – 3056, (2009).
- 56) A.T. Peana, G. Muggironi, G. Calvisi, P. Enrico, M. Mereu, M. Nieddu, **G. Boatto**, M. Diana. “L-Cysteine reduces oral ethanol self-administration and reinstatement of ethanol-drinking behavior in rats”. *Pharmacology, Biochemistry and Behavior* 94, 431 – 437 (2010). **I**
- 57) M. Salaris, M. Nieddu, N. Rubattu, C. Testa, E. Luongo, M. G. Rimoli, **G. Boatto\***. “Acid and base degraded products of ketorolac”. *J. of Pharm. And Biomed. Analysis*, 52, 320 – 322, (2010).
- 58) M. Nieddu, **G. Boatto**, M. A. Pirisi, G. Dessì. “Determination of four thiophenethylamine designer drugs (2C-T-4, 2C-T-8, 2C-T-13, 2C-T-17) in human urine by capillary electrophoresis/mass spectrometry”. *Rapid Commun. Mass Spectrom.*, 24, 2357–2362, (2010).
- 59) M. Nieddu, **G. Boatto\***, M.A. Pirisi, G. Dessì. “A rapid method for determination of four thioamphetamine designer drugs (aleph-4, aleph-8, aleph-13, aleph-17) in human urine”. *Journal of Liquid Chromatography & Related Technologies* 33, (14) 1351 – 1358 (2010).
- 60) E. Baralla, M. Nieddu, **G. Boatto**, M. V. Varoni, D. Palomba, M. P. Demontis, V. Pasciu, V. Anania. Quantitative assay for bradykinin in rat plasma by liquid chromatography coupled to tandem mass spectrometry. *J. of Pharm. And Biomed. Analysis*, 54, 557–561, (2011).
- 61) A. Carta, I. Briguglio, S. Piras, **G. Boatto**, P. La Colla, R. Loddo, M. Tolomeo, S. Grimaudo, A. Di Cristina, R. M. Pipitone, E. Laurini, M. S. Paneni, P. Posocco, M. Fermeglia and S. Pricl. 3-Aryl-2-[1H-benzotriazol-1-yl]acrylonitriles: a novel class of potent tubulin inhibitors. *Eur. Journal of Medicinal Chemistry*, 46, 4151 – 4167, (2011).
- 62) A. Carta, I Briguglio, S. Piras, P. Corona, **G. Boatto**, M. Nieddu, P. Giunchedi, M.E. Marongiu, G. Giliberti, F. Iuliano, S. Blois, C. Ibba, B. Busonera, P. La Colla. Quinoline tricyclic derivatives. Design, synthesis and evaluation of the antiviral activity of three new classes of RNA-dependent RNA polymerase inhibitors. *Bioorganic & Medicinal Chemistry*, 19, 7070 – 7084, (2011).
- 63) M. Nieddu, C. Trignano, L. Burrari, M.A. Pirisi, **G. Boatto\***. Cross-reactivities of 41 new amphetamine designer drugs to EMIT immunoassays. *Forensic Toxicol.*, 31, 133 – 137 (2013).
- 64) M.A. Pirisi, M. Nieddu, L. Burrari, A. Carta, I. Briguglio, E. Baralla, M.P. Demontis M.V. Varoni, **G. Boatto**. An LC–MS–MS method for quantitative analysis of six

- trimethoxyamphetamine designer drugs in rat plasma, and its application to a pharmacokinetic study. *Forensic Toxicol.*, 31, 197 – 203, (2013).
- 65) M. Nieddu, L. Burrai, M.A. Pirisi, A. Carta, I. Briguglio, G. Dessì, **G. Boatto\***. Validated liquid chromatography–mass spectrometry method for the quantitation of N-substituted derivatives of 3,4-methylenedioxyamphetamine in rat urine. *Forensic Toxicol.*, 31, 204 – 211, (2013)
  - 66) L. Burrai, M. Nieddu, M. A. Pirisi, A. Carta, I. Briguglio, **G. Boatto\***. Enantiomeric separation of 13 new amphetamine-like designer drugs by capillary electrophoresis, using modified- $\beta$ -cyclodextrins. *Chirality*, 25, 617–621, (2013).
  - 67) M. Nieddu, G. Rasso, **G.Boatto**, P.Bosi, P. Trevisi, P. Giunchedi, A. Carta, E. Gavini. Improvement of thymol properties by complexation with cyclodextrins: In vitro and in vivo studies. *Carbohydrate Polymers* 102, 393– 399, (2014).
  - 68) **G. Boatto**, M.A. Pirisi, L. Burrai, E. Baralla, M.P. Demontis, M.V. Varoni, M. Nieddu. An LC–MS–MS method for quantitation of four new phenethylamines (BOX series) in plasma: in vivo application. *Forensic Toxicol.*, 32, 75 – 81, (2014).
  - 69) M. Nieddu, L. Burrai, C. Trignano, **G. Boatto\***. Cross-reactivities of 39 new amphetamine designer drugs on three abuse drugs urinary screening tests. *Forensic Toxicol.*, 32, 132 – 138, (2014).
  - 70) M. Nieddu, A. Carta, L. Burrai, M.C. Porcu, N. Culeddu, M.A. Pirisi, **G. Boatto\***. Screening Method for Five Commonly Used Amphetamines in Urine by NMR Spectroscopy. *Applied Magnetic Resonance* 45, 135 – 144, (2014).
  - 71) M. Nieddu, L. Burrai, C. Trignano, **G. Boatto\***. Evaluation of commercial multi-drug oral fluid devices to identify 39 new amphetamine-designer drugs. *Legal Medicine* 16, 106–109, (2014).
  - 72) L. A. Ruocco, C. Treno, U. A. Gironi Carnevale, C. Arra, **G. Boatto**, M Nieddu, C. Pagano, P. Illiano, F. Barbato, A. Tino, W. Adriani and A. G. Sadile. Prepuberal stimulation of 5HT7-R by LP 211 in a rat model of hyper-activity and attention-deficit: permanent effects on attention, brain amino acids and synaptic markers in the fronto-striatal interface. *PLoS One* Apr 7; 9(4): e83003 (2014). [Open access](#).
  - 73) M. Nieddu, E. Baralla, L. Burrai, M. P. Demontis, M. Fiori, G. Brambilla, **G. Boatto\***. Investigation on gabapentin residues in eggs from free-range hens exposed to saline slugs from pharmaceutical industry. *Bulletin of Environmental Contamination and Toxicology*. 92, 662 – 666, (2014).
  - 74) M. Colombo, D. Priori, G. Gandolfi, **G. Boatto**, M. Nieddu, P. Bosi and P. Trevisi. Effect of free thymol on the differential gene expression in gastric mucosa of the young pig. *Animal*. 8:5, 786 – 791, (2014).
  - 75) E. Luongo, R. Russo, C. Avagliano, A. Santoro, D. Melisi, N. S. Orefice, G. Mattace Raso, R. Meli, S. Magliocca, M. Nieddu, G. M. Pinheiro Santiago, **G. Boatto**, A. Calignano, M. G. Rimoli. Galactosyl Prodrug of Palmitoylethanolamide: Synthesis, Stability, Cell Permeation and Cytoprotective Activity. *European Journal of Pharmaceutical Sciences*. 62, 33 – 39, (2014).
  - 76) E. Romano, L.A. Ruocco, P Nativio, E. Lacivita, M. A. Ajmone-Cat, **G. Boatto**, M. Nieddu, A. Tino, A. G. Sadile, L. Minghetti, F. Passarelli, M. Leopoldo, G. Laviola, W. Adriani. Modulatory effects following subchronic stimulation of brain 5-HT7-R system in mice and rats. *Rev Neuroscience*, 25 (3), 383-400 (2014).
  - 77) L.A. Ruocco, C. Treno, U.A.Gironi Carnevale, C. Arra, C. Mattern, J.P. Huston, M.A. de Souza Silva, S. Nikolaus, A. Scorziello, M. Nieddu, **G. Boatto**, P. Illiano, C. Pagano, A. Tino and A. G. Sadile. Prepuberal intranasal dopamine treatment in an animal model of ADHD ameliorates deficient spatial attention, working memory, amino acid transmitters and synaptic markers in prefrontal cortex, ventral and dorsal striatum.. *Amino Acids*, 46, 2105 – 2122 (2014).



- 78) G. Rassu, M. Nieddu, P. Bosi, P. Trevisi, M. Colombo, D. Priori, P. Manconi, P. Giunchedi, E. Gavini, **G. Boatto\***. Encapsulation and modified-release of thymol from oral microparticles as adjuvant or substitute to current medications. *Phytomedicine*, 21, 1627 – 1632 (2014).
- 79) L. Burrai, M. Nieddu, C. Trignano, A. Carta, **G. Boatto**. LC-MS/MS analysis of acetaminophen and caffeine in amniotic fluid. *Analytical Methods* 7, 405 – 410 (2015)
- 80) L. A. Ruocco, C. Treno, U. A. Gironi Carnevale, C. Arra, **G. Boatto**, C. Pagano, A. Tino, M. Nieddu, M. Michel, I. Prikulis, E. Carboni, M. A. de Souza Silva, J. P. Huston, A. G. Sadile, C. Korth. Immunization with DISC1 protein in an animal model of ADHD influences behavior and excitatory amino acids in prefrontal cortex and striatum. *Amino Acids*, 47, 637 – 650 (2015).
- 81) **G. Boatto**, C. Trignano, L. Burrai, A. Spanu, M. Nieddu. Effect of Homoeopathic Mother Tinctures on Breath Alcohol Testing. *J. Forensic Sci.* 60, S1, 231 – 233, (2015).
- 82) I. Briguglio, S. Piras, P. Corona, E. Gavini, M. Nieddu, **G. Boatto**, A. Carta. Benzotriazole: an overview on his versatile biological behaviours. *European Journal of Medicinal Chemistry*, 97, 612 – 648 (2015).
- 83) M. Nieddu, L. Burrai, M.P. Demontis, M.V. Varoni, E. Baralla, C. Trignano, **G. Boatto**†(equal contributors). Simultaneous determination and quantitation of 11 illicit amphetamines in hair by LC/MS/MS. In vivo application. *Journal of Analytical Toxicology* 39, 532 – 537, (2015).
- 84) V. Pasciu, E. Baralla, M.V. Varoni, T. Sedda, **G. Boatto**, M. Nieddu, L. Burrai, M.P. Demontis. Preliminary analysis of oxidative stress parameters in Lister Hooded rats after an acute oral treatment with 2,5-dimethoxyamphetamine (2,5-DMA). *Global Advanced Research Journal of Medicine and Medical Science (GARJMMS)* 4 (7), 337 – 346, (2015).
- 85) L. Burrai, M. Nieddu, A. Carta, C. Trignano, R. Sanna, **G. Boatto**†(equal contributors). Validated LC–MS–MS Method for Multiresidual Analysis of 13 Illicit Phenethylamines in Amniotic Fluid. *Journal of Analytical Toxicology* 40, 194 – 200, (2016).
- 86) M. Nieddu, L. Burrai, E. Baralla, V. Pasciu, M.V. Varoni, I. Briguglio, M.P. Demontis, **G. Boatto**. "ELISA detection of 30 new amphetamine designer drugs in whole blood, urine and oral fluid using Neogen® “Amphetamine specific” and “Methamphetamine/MDMA” Kits". *Journal of Analytical Toxicology* 40, 492 – 497, (2016).
- 87) I. Briguglio, S. Piras, P. Corona, M.A. Pirisi, L. Burrai, **G. Boatto**, E. Gavini, G. Rassu. Synthesis of 2-(quinoxalin-2-ylamino-benzotriazolyl) pentanedioic derivatives as potential anti-folate agents. *Journal of Heterocyclic Chemistry* 53 (6), 1721 – 1737 (2016).
- 88) M. G. Cappai, M.G.A. Lunesu, F. Accioni, M. Liscia, M. Pusceddu, L. Burrai, M. Nieddu, C. Dimauro, **G. Boatto** and W. Pinna. Blood serum retinol levels in Asinara white donkeys reflect albinism-induced metabolic adaptation to photoperiod at Mediterranean latitudes. *Ecology and Evolution* 7, (1), 390 – 398 (2017) [Open access](#).
- 89) S. Magliocca, F. Sodano, M. Nieddu, L. Burrai, **G. Boatto**, M.G. Rimoli. New galactosylated NSAIDs prodrugs in a green context: synthesis and stability. *International Journal of Pharmaceutical Sciences and Research* 8, (4), 1575 – 1581 (2017). IF:
- 90) R. Russo, C. De Caro, B. Avallone, S. Magliocca; M. Nieddu; **G. Boatto**; R. Troiano; R. Cuomo; C. Cirillo; C. Avagliano; C. Cristiano; G. La Rana; G. Sarnelli; A. Calignano; M. G. Rimoli. Ketogal: a derivative ketorolac molecule with minor ulcerogenic and renal toxicity. *Frontiers In Pharmacology*. 8, issue NOV, 6 November 2017, Article number 757. [Open access](#).
- 91) F. Di Guida, C. Pirozzi, S. Magliocca, A. Santoro, A. Lama, R. Russo, M. Nieddu, L. Burrai, **G. Boatto**, M. P. Mollica, F. Sodano, L. Lazzarato, K. Chegaev, , R. Meli, G. Mattace Raso, M.G. Rimoli. Galactosylated pro-drug of ursodeoxycholic acid: design, synthesis, characterization and pharmacological effects in a rat model of estrogen-induced cholestasis. *Molecular Pharmaceutics*, 15, 21 – 30, (2018)

- 92) S. Magliocca, C. De Caro, L. Lazzarato, R. Russo, B. Rolando, K. Chegaev, E. Marini, M. Nieddu, L. Burrari, **G. Boatto**, C. Cristiano, D. Marabello, E. Gazzano, C. Riganti, F. Sodano and M. G. Rimoli. Aceclofenac-galactose conjugate: design, synthesis, characterization and pharmacological and toxicological evaluations. *Molecular Pharmaceutics*, 15, 3101 – 3110, (2018).
- 93) E. Baralla, M. Nieddu, L. Burrari; M. V. Varoni; M. P. Demontis; **G. Boatto**. "LC-MS/MS analysis of two new designer drugs (FLY series) in rat plasma and its application to a pharmacokinetic study. *Legal Medicine*, 38, 58 – 63, (2019).
- 94) F. Accioni, M. Nieddu,; P. Corona; **G. Boatto**. Hexanol-based supramolecular solvents tool for the determination of 11 illicit phenethylamines in oral fluid by LC-MS/MS. *Journal of Analytical Toxicology*, 44 (1), 15 – 21, (2020) doi: 10.1093/jat/bkz039.
- 95) E Baralla, MV Varoni, M Nieddu, MP Demontis, P Merella, C Burreddu, G Garippa, **G. Boatto**. Determination of Praziquantel in *Sparus aurata* L. After Administration of Medicated Animal Feed. *Animals*, 10, (3) 528 (2020). [Open access](#) doi:10.3390/ani10030528.
- 96) M G Cappai, C Dimauro, G P Biggio, R Cherchi, F Accioni, F Pudda, **G Boatto**, W Pinna. The metabolic profile of Asinara (albino) and Sardo donkeys (pigmented) (*Equus asinus* L., 1758) points to unequivocal breed assignment of individuals. *PEERJ* 8:e9297 [Open access](#) (2020).