



## Dott.ssa Daniela Lanari

Ricercatore non confermato CHIM/06

**Temi di ricerca:** Catalisi, Ottimizzazione di processi sintetici, catalizzatori supportati su matrici polistireniche, Green chemistry in mezzi di reazioni alternativi. Reattori in flusso per lo sviluppo di sintesi sostenibili per fine chemicals.

**Collaborazioni:** Dott. Alessandro Palmieri, Università di Camerino, Scuola di Scienze e Tecnologia.

Dott. Stefano Protti, Università di Pavia, Dipartimento di Chimica Organica

Prof. Luigi Vaccaro, Università di Perugia, Dipartimento di Chimica, Biologia e Biotecnologie.

### Pubblicazioni 2009-

1. Fringuelli, F.; Lanari, D.; Pizzo, F.; Vaccaro, L., Solid-Supported Ammonium Fluorides in Organic Synthesis. *Current Organic Synthesis* **2009**, *6* (2), 203-218.
2. Angelini, T.; Fringuelli, F.; Lanari, D.; Pizzo, F.; Vaccaro, L., A catalytic approach to the base-promoted reaction of epoxides with activated methylenes. *Tetrahedron Letters* **2010**, *51* (12), 1566-1569.
3. Zvagulis, A.; Bonollo, S.; Lanari, D.; Pizzo, F.; Vaccaro, L., 2-tert-Butylimino-2-diethylamino-1,3-dimethylperhydro-1,3,2-diazaphosphorine Supported on Polystyrene (PS-BEMP) as an Efficient Recoverable and Reusable Catalyst for the Phenolysis of Epoxides under Solvent-Free Conditions. *Advanced Synthesis & Catalysis* **2010**, *352* (14-15), 2489-2496.
4. Fringuelli, F.; Lanari, D.; Pizzo, F.; Vaccaro, L., An E-factor minimized protocol for the preparation of methyl beta-hydroxy esters. *Green Chemistry* **2010**, *12* (7), 1301-1305.
5. Bonollo, S.; Lanari, D.; Marrocchi, A.; Vaccaro, L., Stereoselective Ring-Opening Reactions of Epoxides in Water. *Current Organic Synthesis* **2011**, *8* (3), 319-329.
6. Bonollo, S.; Lanari, D.; Pizzo, F.; Vaccaro, L., Sc(III)-Catalyzed Enantioselective Addition of Thiols to alpha,beta-Unsaturated Ketones in Neutral Water. *Organic Letters* **2011**, *13* (9), 2150-2152.
7. Bonollo, S.; Lanari, D.; Vaccaro, L., Ring-Opening of Epoxides in Water. *European Journal of Organic Chemistry* **2011**, (14), 2587-2598.
8. Lanari, D.; Ballini, R.; Bonollo, S.; Palmieri, A.; Pizzo, F.; Vaccaro, L., JandaJel as a polymeric support to improve the catalytic efficiency of immobilized-1,5,7-triazabicyclo[4.4.0]dec-5-ene (TBD) under solvent-free conditions. *Green Chemistry* **2011**, *13* (11), 3181-3186.
9. Lanari, D.; Ballini, R.; Palmieri, A.; Pizzo, F.; Vaccaro, L., Diastereoselective Three-Step Route to o-(6-Nitrocyclohex-3-en-1-yl)phenol and Tetrahydro-6H-benzo[c]chromen-6-ol Derivatives from Salicylaldehydes. *European Journal of Organic Chemistry* **2011**, (15), 2874-2884.
10. Lanari, D.; Montanari, F.; Marmottini, F.; Piermatti, O.; Orru, M.; Vaccaro, L., New zirconium

- hydrogen phosphate alkyl and/or aryl phosphonates with high surface area as heterogeneous Bronsted acid catalysts for aza-Diels-Alder reaction in aqueous medium. *Journal of Catalysis* **2011**, 277 (1), 80-87.
11. Calogero, S.; Lanari, D.; Orru, M.; Piermatti, O.; Pizzo, F.; Vaccaro, L., Supported L-proline on zirconium phosphates methyl and/or phenyl phosphonates as heterogeneous organocatalysts for direct asymmetric aldol addition. *Journal of Catalysis* **2011**, 282 (1), 112-119.
  12. Maggi, R.; Lanari, D.; Oro, C.; Sartori, G.; Vaccaro, L., Heterogeneous Bisoxazoline/Copper Complex: A Green Catalyst for the Enantioselective Reaction of Nitromethane with Substituted Benzaldehydes. *European Journal of Organic Chemistry* **2011**, (28), 5551-5554.
  13. Palmieri, A.; Gabrielli, S.; Lanari, D.; Vaccaro, L.; Ballini, R., A New One-Pot Synthesis of Polysubstituted Indoles from Pyrroles and beta-Nitroacrylates. *Advanced Synthesis & Catalysis* **2011**, 353 (9), 1425-1428.
  14. Angelini, T.; Bonollo, S.; Lanari, D.; Pizzo, F.; Vaccaro, L., A Protocol for Accessing the beta-Azidation of alpha,beta-Unsaturated Carboxylic Acids. *Organic Letters* **2012**, 14 (17), 4610-4613.
  15. Angelini, T.; Lanari, D.; Maggi, R.; Pizzo, F.; Sartori, G.; Vaccaro, L., Preparation and Use of Polystyryl-DABCOF<sub>2</sub>: An Efficient Recoverable and Reusable Catalyst for beta-Azidation of alpha,beta-Unsaturated Ketones in Water. *Advanced Synthesis & Catalysis* **2012**, 354 (5), 908-916.
  16. Bonollo, S.; Lanari, D.; Angelini, T.; Pizzo, F.; Marrocchi, A.; Vaccaro, L., Rasta resin as support for TBD in base-catalyzed organic processes. *Journal of Catalysis* **2012**, 285 (1), 216-222.
  17. Bonollo, S.; Lanari, D.; Longo, J.; Vaccaro, L., E-factor minimized protocols for the polystyryl-BEMP catalyzed conjugate additions of various nucleophiles to alpha,beta-unsaturated carbonyl compounds. *Green Chemistry* **2012**, 14 (1), 164-169.
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  19. Marrocchi, A.; Lanari, D.; Facchetti, A.; Vaccaro, L., Poly(3-hexylthiophene): synthetic methodologies and properties in bulk heterojunction solar cells. *Energy & Environmental Science* **2012**, 5 (9), 8457-8474.
  20. Lanari, D.; Piermatti, O.; Pizzo, F.; Vaccaro, L., Copper(II) Triflate-Sodium Dodecyl Sulfate Catalyzed Preparation of 1,2-Diphenyl-2,3-dihydro-4-pyridones in Aqueous Acidic Medium. *Synthesis-Stuttgart* **2012**, 44 (14), 2181-2184.
  21. Gabrielli, S.; Palmieri, A.; Panmand, D. S.; Lanari, D.; Vaccaro, L.; Ballini, R.,  $\beta$ -Nitroacrylates as key starting materials for the one-pot synthesis of densely functionalized penta-substituted anilines. *Tetrahedron* **2012**, 68 (39), 8231-8235.
  22. Alonzi, M.; Lanari, D.; Marrocchi, A.; Petrucci, C.; Vaccaro, L., Synthesis of polymeric semiconductors by a surface-initiated approach. *RSC Advances* **2013**, 3, 23909-23923.
  23. Angelini, T.; Bonollo, S.; Lanari, D.; Pizzo, F.; Vaccaro, L., E-Factor minimized hydrophosphonylation of aldehydes catalyzed by polystyryl-BEMP under solvent-free conditions. *Organic & Biomolecular Chemistry* **2013**, 11 (30), 5042-5046.
  24. Ballerini, E.; Crotti, P.; Frau, I.; Lanari, D.; Pizzo, F.; Vaccaro, L., A waste-minimized protocol for the preparation of 1,2-azido alcohols and 1,2-amino alcohols. *Green Chemistry* **2013**, 15 (9), 2394-2400.
  25. Strappaveccia, G.; Lanari, D.; Gelman, D.; Pizzo, F.; Rosati, O.; Curini, M.; Vaccaro, L., Efficient synthesis of cyanohydrin trimethylsilyl ethers via 1,2-chemoselective cyanosilylation of carbonyls. *Green Chemistry* **2013**, 15 (1), 199-204.
  26. Lanari, D.; Rosati, O.; Curini, M. A solvent-free protocol for the synthesis of 3-formyl-2H-chromenes via domino oxa Michael/aldol reaction. *Tetrahedron Lett.* **2014**, 55, 1752-1755.
  27. Lanari, D.; Angelini, T.; Ballerini, E.; Bonollo, S.; Curini, M. *Green Chem. Lett. Rev.*  
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## Comunicazioni 2009-

1. Santarelli M. L., Broggi A., Bracciale M. P., Marrocchi A., Vaccaro L., Lanari D. (2012). *AFM as powerful imaging tool for the characterization of polymer-supported TBD catalysts*. In: -. IUPAC MACRO 2012 World Polymer Congress . **Blacksburg, VA** - USA, 24-29 giugno 2012
2. Vaccaro L., Lanari D., Pizzo F., Marrocchi A. (2012). *New synthetic tools for the definition of sustainable continuous-flow reactors*. In: -. 4th Echems Chemistry Congress. **Praga**, 26-30 Agosto 2012, p. O-436.
3. Strappaveccia G., Lanari D., Pizzo F., Vaccaro L. (2012). *Preparation of  $\beta$ -cyano ketones via a two-step catalyzed efficient addition of trimethylsilyl cyanide to  $\alpha,\beta$ -unsaturated ketones*. In: *Le Sfide della Chimica Industriale per una innovazione sostenibile* . **Pavia**, 10-14 Settembre 2012.
4. Alonzi M., Bonollo S., Lanari D., Pizzo F., Vaccaro L. (2011). *DEFINIZIONE DI UN PROTOCOLLO SINTETICO A RIDOTTO IMPATTO AMBIENTALE PER LA PRODUZIONE DI WARFARIN*. In: *Atti del XXX Convegno Interregionale Tuma 2011*. **Perugia**, 30 Giugno - 1 Luglio 2011.
5. Lanari D., Pizzo F., Vaccaro L. (2011). *Processi in flusso continuo per lo sviluppo di una chimica organica Green*. In: *Atti del CONVEGNO NAZIONALE CHIMICA VERDE, CHIMICA SICURA II edizione*. **Pavia**, 22-24 Giugno 2011.
6. Wolfer P., Santarelli M. L., Vaccaro L., Broggi A., Lanari D., Yu L., Anthopoulos T. D., Smith P., Stingelin N., Marrocchi A. (2011). *Semiconducting Arylacetylene:Insulating Polymer Blends for Organic-Based Electronic Devices*. In: -. *MRS Fall Meeting 2011* . **Boston** (MA), USA , 28 novembre- 2 dicembre 2011.
7. Strappaveccia G., Angelini T., Lanari D., Pizzo F., Vaccaro L. (2011). *UNA STRATEGIA EFFICIENTE PER LA SINTESI DI CIANIDRINE E  $\beta$ -CIANOCHETONI A PARTIRE DA CHETONI  $\alpha,\beta$ -INSATURI* . In: *Atti del XXX Convegno Interregionale Tuma 2011*. **Perugia**, Perugia, 30 giugno - 1 luglio 2011.
8. Vaccaro L., Lanari D. (2010). *Alternative Reaction Media for Developing an Efficient Green Organic Synthesis*. In: *Atti del 2nd EUCHEMs Organic Division Young Investigator's Workshop*. **Regensburg**, Germany, 27-29 August 2010.
9. Lanari D., Pizzo F., Vaccaro L. (2010). *SOLVENT-FREE CONTINUOUS-FLOW PROTOCOLS FOR DEVELOPING A GREEN ORGANIC SYNTHESIS*. In: *Atti del XXXIII Convegno Nazionale della Divisione di Chimica Organica*. **San Benedetto del Tronto** (AP), 12-16 Settembre 2010.
10. D. Lanari, J. Longo, L. Vaccaro (2010). *E-factor minimized protocol for the Polystyryl-BEMP catalyzed conjugate additions of various nucleophiles under solvent-free conditions* . *ABSTRACTS OF PAPERS - AMERICAN CHEMICAL SOCIETY*, vol. 240, ISSN: 0065-7727
11. Vaccaro L., Lanari D. (2009). *Critical Surveys Covering the Year 2008: Introduction and Transformation of Functional Groups*. In: *Atti del XXXIV Corso Estivo "A. Corbella"* . **Gargnano** (BS), 22-26 Giugno 2009.

## Attività didattica

2012- presente

Didattica integrativa del Corso di "Chimica Organica" Corso di Laurea in Farmacia

2011-presente

Titolare del corso di "Materiali per le Energie rinnovabili" per il Corso di Laurea Magistrale in Scienze Chimiche.