

Curriculum vitae Prof. Silvestre Buscemi

INFORMAZIONI PERSONALI

Nome SILVESTRE **Cognome** BUSCEMI

Recapito Dip STEBICEF viale delle Scienze pad 17 Sez chimica

Telefono 091-23897532 (studio) **E-mail** silvestre.buscemi@unipa.it

FORMAZIONE ED ESPERIENZE LAVORATIVE

- Diploma di perito industriale capotecnico indirizzo Chimica Industriale con la votazione di 56/60 (Luglio 1975)
- Laurea in Chimica il 23/7/1980 presso la Facoltà di Scienze dell'Università di Palermo con la votazione di 110 su 110 e lode.
- Nell'ottobre 1980 ha conseguito l'abilitazione all'esercizio della professione di Chimico.
- Dall' 1/7/1981 al 13/11/1983 ha prestato servizio presso l'Azienda Municipalizzata Acquedotto di Palermo in qualità di Chimico addetto agli impianti di potabilizzazione.
- Vincitore del concorso libero per Ricercatore (Chimica Organica), ha preso servizio il 14/11/1983 presso l'Istituto di Chimica Organica della Facoltà di Scienze dell'Università di Palermo.
- Dall' 1/11/1992, in seguito a concorso pubblico, è stato nominato Professore Universitario di Ruolo (II Fascia, Associato) e chiamato a ricoprire l'insegnamento di Chimica Organica del Corso di Studi in Farmacia presso la Facoltà di Farmacia dell'Università di Palermo
- Dal 23/12/2003, in seguito a concorso pubblico, è stato nominato Professore Universitario di Ruolo (I Fascia, Ordinario) e chiamato a ricoprire l'insegnamento di Chimica Organica del Corso di Studi in Farmacia presso la Facoltà di Farmacia dell'Università di Palermo

INCARICHI ATTUALMENTE RICOPERTI

Dal 1 Novembre 2015 direttore del Dipartimento STEBICEF



Dal giugno 2016 componente del Senato Accademico

Associato al Consorzio Interuniversitario Nazionale per la Scienza e la Tecnologia dei Materiali

Componente dell'Advisory Board dell'Istituto Euro Mediterraneo di Scienza e Tecnologie

INCARICHI RICOPERTI IN PASSATO

Dal 2014 al 2015 Componente del Consiglio Scientifico di Ateneo area 03 (Chimica)

Dal 2009 al 2015 Presidente del Comitato paritetico Università di Palermo – Consiglio Nazionale delle Ricerche

Dal 2009 al 2015 Delegato del Rettore dell'Università di Palermo nel Comitato paritetico Università di Palermo – Consiglio Nazionale delle Ricerche

Dal 2014 Componente Consiglio Scuola di Scienze di Base ed Applicate

Dal 2008 al 2013 Presidente del Consiglio di Corso di Studi in Farmacia

Dal 2102 al 2015 Delegato del Direttore del Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche (STEBICEF) per il funzionamento ordinario, la manutenzione e la gestione del patrimonio

Dal 2102 al 2015 Componente della giunta del Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche (STEBICEF)

Dal 2008 al 2010 Direttore vicario del Dipartimento di Chimica Organica

Componente della giunta del Dipartimento di Chimica Organica nei periodi 1988-1992, 1996-2002, 2005-2010

Componente giunta di Presidenza Facoltà di Farmacia dal 1999 al 2003

Componente del direttivo della Società Chimica Italiana – sezione Sicilia dal 2000 al 2006

Responsabile dei Giochi della Chimica (per le province di Palermo, Trapani ed Agrigento) dal 2000 al 2006

Componente della Commissione Scientifica 03 (Scienze Chimiche) dell'Università di Palermo (assegnazione dei fondi di ricerca) dal 1995 al 1997

Responsabile della sicurezza del Dipartimento di Chimica Organica

Responsabile della strumentazione del Dipartimento di Chimica Organica

ALTRI INCARICHI

Coordinatore del Comitato Scientifico della Fondazione CRIMI (Galati Mamertino, Messina) (dal 2015)



ASSOCIAZIONI SCIENTIFICHE

Componente della Società Chimica italiana

Componente della divisione di Chimica Organica della SCI

Componente del Gruppo interdivisionale di fotochimica della SCI

Componente della European Photochemistry Association (EPA)

ATTIVITA' DIDATTICA

Insegnamenti:

Chimica organica (corso di laurea in Farmacia, Facoltà di Farmacia) (corso istituzionale)

Corsi svolti per supplenza o affidamento (vari anni)

Chimica organica (corso di laurea in Enologia, Facoltà di Agraria)

Chimica organica (corso di laurea in Informazione scientifica del Farmaco, Facoltà di Farmacia)

Chimica organica (corso di laurea in Scienze Farmaceutiche applicate, Facoltà di Farmacia)

Processi Biochimici (corso di laurea in Enologia, Facoltà di Agraria)

Chimica organica (corso di laurea in Tecniche Erboristiche, Facoltà di Farmacia)

Dal 1983 al 1992 ha svolto attività didattica consentita ai Ricercatori presso il corso di Laurea in Scienze Biologiche della Facoltà di Scienze dell'Università di Palermo

Relatore di numerose tesi sperimentali e compilative per i corsi di laurea in Farmacia, Chimica e Tecnologie Farmaceutiche, Chimica e Scienze Biologiche

ATTIVITA' SCIENTIFICA

Coordinatore di un gruppo di ricerca universitario composto da 3 Professori Associati, oltre ad assegnisti, dottorandi e ricercatori a tempo determinato, Il prof. Buscemi è autore di oltre 120 pubblicazioni su riviste internazionali ISI e di numerose comunicazioni a convegno



L'attività scientifica svolta ha riguardato tipici argomenti di chimica organica ed è stata orientata prevalentemente verso la chimica dei composti eterociclici. Nelle linee generali, essa è riconducibile a tre settori di ricerca caratterizzanti, quali:

- Riarrangiamenti Molecolari di Sistemi Eterociclici;
- Comportamento Fotochimico di Eterocicli Pentatomici;
- Composti Eterociclici Fluorurati.
- Foto-funzionalizzazione di composti organici naturali;
- Foto-reticolazione di strutture polimeriche per applicazioni farmacologiche.
- Sintesi di Nuovi Sistemi Eterociclici Fluorurati per applicazioni avanzate.
- Nuovi antibiotici per ceppi batterici antibiotici resistenti
- Nuove molecole con potenziali attività anti Alzheimer e per la cura della fibrosi cistica
- Sintesi di liquidi ionici e dendrimeri fluorurati contenenti sistemi eterociclici, la sintesi di sensori per cationi metallici, lo studio di idrogeli per applicazioni farmacologiche.

ELENCO DELLE PUBBLICAZIONI

- 1) Linear Free Energy *ortho*-Correlations in the Thiophene Series. Part IX. Kinetics of Esterification with Diazodiphenylmethane of Some 3-, 4-, and 5-Substituted Thiophene-2-carboxylic Acids in Methanol.

R. Noto, S. Buscemi, G. Consiglio, and D. Spinelli.

J. Heterocycl. Chem., **18**, 735 (1981).
- 2) Lead Tetraacetate Oxidation of Phenylhydrazones of 3-Benzoylazoles. Synthesis of Azoacetates and Their Conversion into Indazoles.

N. Vivona, V. Frenna, S. Buscemi, and M. Condò.

J. Heterocycl. Chem., **22**, 29 (1985).
- 3) Heterocyclic Rearrangements. *N,N*-Diphenylhydrazones, Oximes and *O*-Methyloximes of 3-Benzoyl-5-phenyl-1,2,4-oxadiazole.

N. Vivona, V. Frenna, S. Buscemi, and M. Ruccia.

J. Heterocycl. Chem., **22**, 97 (1985).



- 4) Heterocyclic Rearrangements. Rearrangement of the Oximes of Some 3-Acyl-1,2,4-oxadiazoles into 1,2,5-Oxadiazoles: A Revision.
N. Vivona, S. Buscemi, V. Frenna, M. Ruccia, and M. Condò.
J. Chem. Research, (S), 190 (1985), (M), 2184 (1985).
- 5) Heterocyclic Rearrangements. Rearrangement of *N*-(1,2,4-Oxadiazol-3-yl)- β -enamino Ketones into Pyrimidine *N*-Oxides.
N. Vivona, S. Buscemi, V. Frenna, and M. Ruccia.
J. Chem. Soc., Perkin Trans. 1, 17 (1986).
- 6) Heterocyclic Rearrangements. Synthesis of 1,2,4-Oxadiazolo[2,3- σ] pyrimidinium Systems and Their Ring Opening into Pyrimidine *N*-Oxides.
S. Buscemi, G. Macaluso, V. Frenna, and N. Vivona.
J. Heterocycl. Chem., **23**, 1175 (1986).
- 7) Heterocyclic Rearrangements. Rearrangement of 1,2,4-Oxadiazoles, Isoxazoles, and 1,2,5-Oxadiazoles Involving a Carbethoxythiourea NCS Sequence.
G. Macaluso, G. Cusmano, S. Buscemi, V. Frenna, N. Vivona, and M. Ruccia.
Heterocycles, **24**, 3433 (1986).
- 8) On the Configuration and the Conformation of 2-Acylindazole Aryl-hydrazones.
G. Cusmano, G. Macaluso, W. Hinz, and S. Buscemi.
Heterocycles, **26**, 1283 (1987).
- 9) Studies on Decarboxylation Reactions. Part 5. Micellar Catalysis and Mixed Solvents Effects on the Decarboxylation of Some *N*-Alkyl- or *N*-Aryl-substituted 5-Amino-1,3,4-oxadiazole-2-carboxylic Acids.
R. Noto, S. Buscemi, G. Werber, and D. Spinelli.
J. Heterocycl. Chem., **24**, 1449 (1987).
- 10) Photochemical Behaviour of Some 1,2,4-Oxadiazole Derivatives.
S. Buscemi, M. G. Cicero, N. Vivona, and T. Caronna.
J. Chem. Soc., Perkin Trans. 1, 1313 (1988).
- 11) Heterocyclic Photorearrangements. Photochemical Behaviour of Some 3,5-Disubstituted 1,2,4-Oxadiazoles in Methanol at 254 nm.
S. Buscemi, M.G. Cicero, N. Vivona, and T. Caronna.
J. Heterocycl. Chem., **25**, 931 (1988).



- 12) Mononuclear Heterocyclic Rearrangements. Part 15. Kinetic Study of the Amine-catalysed Rearrangement of Some Z-Arylhydrazones of 3-Benzoyl-5-phenylisoxazole into 2-Aryl-4-phenacyl-5-phenyl-1,2,3-triazoles in Acetonitrile and in Benzene.
- V. Frenna , S. Buscemi, and C. Arnone.
- J. Chem. Soc., Perkin Trans 2*, 1683 (1988).
- 13) Heterocyclic Photorearrangements. Photoinduced Rearrangements of 1,2,4-Oxadiazoles Substituted by an XYZ Side Chain Sequence.
- S. Buscemi and N. Vivona .
- J. Heterocycl. Chem*, **25**, 1551 (1988).
- 14) Heterocyclic Photorearrangements. Photoinduced Rearrangements of some 3-Aroylamino-5-methyl-1,2,4-oxadiazoles.
- S. Buscemi and N. Vivona.
- Heterocycles*, **29**, 737 (1989).
- 15) Heterocyclic Photorearrangements. Photochemical Behaviour of some 3-Acetylamino-5-aryl-1,2,4-oxadiazoles. A Photoinduced *Iso*-heterocyclic Rearrangement.
- S. Buscemi, G. Macaluso, and N. Vivona.
- Heterocycles*, **29**, 1301 (1989).
- 16) Cyclization Reactions of Arylhydrazone Adducts. Synthesis of 1-Aryl-1H-1,2,4-Triazolo[4,3-b] indazoles.
- G. Cusmano, G. Macaluso, M. Gruttadauria, and S. Buscemi.
- Heterocycles*, **29**, 2149 (1989).
- 17) A Kinetic Study on the Base-catalysed $E \longrightarrow Z$ Isomerization of Some Arylhydrazones of 3-Benzoyl-5-phenyl-1,2,4-oxadiazole: Effect of the Substituents in the Arylhydrazone Moiety.
- V. Frenna , S. Buscemi, D. Spinelli, and G. Consiglio.
- J. Chem. Soc., Perkin Trans 2*, 215 (1990).
- 18) Heterocyclic Photorearrangements. Photoinduced Rearrangement of 3-Styryl-1,2,4-Oxadiazoles.
- S. Buscemi, G. Cusmano, and M. Gruttadauria.
- J. Heterocycl. Chem*, **27**, 861 (1990).
- 19) A Synthesis of 1,2,4-Triazolo[1,5-f]phenanthridines by Rearrangements of 1,2,5-Oxadiazoles Involving an NCN Sequence with the Imine Nitrogen in an Aromatic Heterocyclic Ring.
- G. Cusmano, G. Macaluso, M. Gruttadauria, and S. Buscemi.

Heterocycles, **31**, 869 (1990).

- 20) Heterocyclic Photorearrangements. Some Investigations on the Photochemical Behaviour of 3-Acylamino-1,2,4-oxadiazoles. Synthesis of the Quinazolin-4-one System.

S. Buscemi and N. Vivona.

J. Chem. Soc., Perkin Trans 2, 187 (1991).

- 21) Heterocyclic Rearrangements. - A Semiempirical Study of a Degenerate Rearrangement in the 1,2,4-Oxadiazole Series.

G. La Manna, **S. Buscemi**, V. Frenna, N. Vivona, and D. Spinelli.

Heterocycles, **32**, 1547 (1991).

- 22) Heterocyclic Rearrangements. - The Rearrangement of 3-Aroylaminoisoxazoles into 2-aroylaminooxazoles.

S. Buscemi, V. Frenna, and N. Vivona.

Heterocycles, **32**, 1765 (1991).

- 23) Photochemical Cyclization of some Aldehyde Thiosemicarbazones.

M. Gruttadauria, F. Buccheri, **S. Buscemi**, G. Cusmano, R. Noto,
and G. Werber.

J. Heterocycl. Chem, **29**, 233 (1992).

- 24) Photochemical Behaviour of 1,2,5-Oxadiazoles. Irradiation of some 3-Acylamino-1,2,5-oxadiazoles in the presence of nucleophiles.

S. Buscemi, V. Frenna, T. Caronna, and N. Vivona.

Heterocycles, **34**, 2313 (1992).

- 25) Copper(II)-catalyzed Mononuclear Rearrangements: the Behaviour of Arylhydrazones of some 3-Benzoylazoles in the Presence of Copper(II) acetate.

S. Buscemi, V. Frenna, N. Vivona, and D. Spinelli.

J. Chem. Soc., Perkin Trans 1, 2491 (1993)

- 26) Ring Transformations of Five-Membered Heterocycles.

N. Vivona, **S. Buscemi**, V. Frenna, and G. Cusmano.

Adv. Heterocycl. Chem., (A. R. Katritzky Ed.), **56**, 49 (1993).

- 27) Molecular Rearrangements in Heterocyclic Synthesis. A Generalized Synthesis of 1,2,4-Thiadiazoles from 3-Acylamino-1-oxa-2-azoles.

S. Buscemi and N. Vivona.

Heterocycles, **38**, 2423 (1994).

- 28) Studies on Azole-to-Azole Interconversions. Substituent Effects on the Ring-degenerate Equilibration between 3-Aroylamino-5-methyl-1,2,4-oxadiazoles and 3-acetylamino-5-aryl-1,2,4-oxadiazoles.

S. Buscemi, V. Frenna, N. Vivona, G. Petrillo, and D. Spinelli.

Tetrahedron, **51**, 5133 (1995).

- 29) Photoinduced Molecular Rearrangements. Some Investigations of the Photochemical Behaviour of 3-(Acylamino)-1,2,5-oxadiazoles (Furazans).

S. Buscemi, N. Vivona, and T. Caronna.

J. Org. Chem., **60**, 4096 (1995).

- 30) A Generalized and Efficient Synthesis of 3-Amino-, 3-(*N*-Alkylamino)-, 3-(*N,N*-Dialkylamino)-5-alkyl-1,2,4-oxadiazoles by Irradiation of 3-Alkanoylamino-4-phenyl-1,2,5-oxadiazoles (Furazans).

S. Buscemi, N. Vivona, and T. Caronna.

Synthesis, 917 (1995).

- 31) Photoinduced Molecular Rearrangements of O-N Bond-containing Five-membered Heterocycles. An Assay for 1,2,4- and 1,2,5-oxadiazoles.

N. Vivona and **S. Buscemi**.

Heterocycles, **41**, 2095 (1995).

- 32) Photoinduced Molecular Rearrangements. The Photochemistry of Some 1,2,4-Oxadiazoles in the Presence of Nitrogen Nucleophiles. Formation of 1,2,4-Triazoles, Indazoles, and Benzimidazoles.

S. Buscemi, N. Vivona, and T. Caronna.

J. Org. Chem., **61**, 8397 (1996).

- 33) Photoinduced Molecular Rearrangements. The Photochemistry of 1,2,4-Oxadiazoles in the Presence of Sulphur Nucleophiles. Synthesis of 1,2,4-Thiadiazoles.

N. Vivona, **S. Buscemi**, S. Asta, and T. Caronna.

Tetrahedron, **53**, 12629 (1997).

- 34) Theoretical Study of Degenerate Boulton-Katritzky Rearrangements. Semiempirical and ab Initio Procedures.

G. La Manna, **S. Buscemi**, and N. Vivona.

J. Mol. Struct. (Theochem), **452**, 67, (1998).

- 35) The Photochemistry of 2-Diazo- and 3-Diazopyrroles

S. Buscemi, A. Pace, G. Cirrincione, and P. Diana.



Heterocycles, **51**, 1631, (1999).

- 36) New Biodegradable hydrogels Based on a Photocrosslinkable Modified Polyaspartamide: Synthesis and Characterizations.
G. Giammona, G. Pitarresi, G. Cavallaro, **S. Buscemi**, and F. Saiano.
Biochimica and Biophysica Acta, **1428**, 29 (1999).
- 37) Photoinduced Single Electron Transfer on 5-Aryl-1,2,4-oxadiazoles: Some Mechanistic Investigations in the Synthesis of Quinazolin-4-ones.
S. Buscemi, A. Pace, N. Vivona, T. Caronna, and A. Galia.
J. Org. Chem., **64**, 7028 (1999).
- 38) Sensitized Photoreduction of Nitrosoazoles on Titanium Dioxide.
A. Pace, **S. Buscemi**, N. Vivona, and T. Caronna.
Heterocycles, **53**, 183, (2000).
- 39) Photocyclization Reaction of Some 2-Methyl-4-phenyl- Substituted Aldehyde Thiosemicarbazones. Mechanistic Aspects.
S. Buscemi and M. Gruttadauria.
Tetrahedron, **56**, 999, (2000).
- 40) Fluoro Heterocycles. A Photochemical Methodology for the Synthesis of 3-Amino- and 3-(*N*-alkylamino)-5-perfluoroalkyl-1,2,4-oxadiazoles.
S. Buscemi, A. Pace, and N. Vivona .
Tetrahedron Lett., **41**, 7977, (2000).
- 41) Ultraviolet-Induced Cross-linking of a Functionalized Polyaspartamide Carrying Ester Groups.
G: Pitarresi, E. F. Craparo, B. Carlisi, G. Giammona, and **S. Buscemi**
J. Bioact. Compat. Polym., **16**, 98, (2001).
- 42) 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, and **S. Buscemi**.
Colloid. Polym. Sci. , **279**, 771, (2001).
- 43) Photoinduced Molecular Rearrangements. Some Comments on the Ring-Photoisomerization of 1,2,4-Oxadiazoles into 1,3,4-Oxadiazoles.
S. Buscemi, A. Pace, N. Vivona, and T. Caronna.
J. Heterocycl. Chem, **38**, 777 (2001).
- 44) Fluorinated Heterocyclic Compounds. A Photochemical Synthesis of 3-Amino-5-perfluoroaryl-1,2,4-oxadiazoles.
S. Buscemi, A. Pace, R. Calabrese, N. Vivona, and P. Metrangolo.

- Tetrahedron*, **57**, 5865, (2001).
- 45) On the Synthesis and Reactivity of the Z-2,4-Dinitrophenylhydrazone of 5-Amino-3-benzoyl-1,2,4-oxadiazole.
B. Cosimelli, S. Guarnelli, D. Spinelli, **S. Buscemi**, V. Frenna, and G. Macaluso.
J. Org. Chem., **66**, 6124 (2001).
- 46) Photoinduced Functionalization of C-20 Methyl Group of the Nor-diterpene Atractyligenin.
S. Buscemi, S. Rosselli, M. Bruno, N. Vivona, and F. Piozzi.
Tetrahedron Lett., **42**, 8289, (2001).
- 47) An Analysis of ^1H , ^{13}C and ^{15}N NMR Substituent Chemical Shifts in *para*- and *meta*-Substituted (Z)-Phenylhydrazones of 3-Benzoyl-5-phenyl-1,2,4-oxadiazoles.
E. Mezzina, D. Spinelli, L. Lamartina, **S. Buscemi**, V. Frenna, and G. Macaluso.
E. J. Org. Chem, 203 (2002).
- 48) Studies on Azole-to-Azole Interconversion. - An Interesting Case of Absence of a "Primary Steric Effect" in the Ring-degenerate Equilibration between *ortho*-Substituted 3-Aroylamino-5-methyl-1,2,4-oxadiazoles and 3-Acetylamino-5-aryl-1,2,4-oxadiazoles in Methanol.
S. Buscemi, V. Frenna, A. Pace, N. Vivona, B. Cosimelli, and D. Spinelli.
E. J. Org. Chem, 1417 (2002).
- 49) A Generalized Synthesis of 3-Amino-5-aryl-, 3-Amino-5-polyfluorophenyl-, and 3-Amino-5-alkyl-1,2,4-oxadiazoles through Ring-degenerate Rearrangements.
S. Buscemi, A. Pace, V. Frenna, and N. Vivona.
Heterocycles, **57**, 811 (2002).
- 50) Competing Ring-photoisomerization Pathways in the 1,2,4-Oxadiazole Series. An Unprecedented Ring-degenerate Photoisomerization.
S. Buscemi, A. Pace, I. Pibiri, and N. Vivona.
J. Org. Chem., **67**, 6253 (2002).
- 51) Fluorinated Heterocyclic Compounds. Synthesis of 5-Amino-, 5-*N*-Alkylamino-, 5-*N,N*-Dialkylamino-3-perfluoroheptyl-1,2,4-oxadiazoles.
S. Buscemi, A. Pace, I. Pibiri, and N. Vivona.
Heterocycles, **57**, 1891 (2002).
- 52) Photoinduced Functionalization of Diterpenes. Transformation of the C-20 Methyl of Atractyligenin into a Carbomethoxymethyl or Carbamoylmethyl group.
S. Buscemi, S. Rosselli, M. Bruno, N. Vivona, and F. Piozzi.
J. Photochemistry and Photobiology A: Chemistry, **155**, 145 (2003).
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- 53) Fluorinated Heterocyclic Compounds. An Expedient Route to 5-Perfluoroalkyl-1,2,4-triazoles *via* an Unusual Hydrazinolysis of 5-Perfluoroalkyl-1,2,4-oxadiazoles: First Examples of an ANRORC-like Reaction in the 1,2,4-Oxadiazole Derivatives.
S. Buscemi, A. Pace, I. Pibiri, N. Vivona, and D. Spinelli.
J. Org. Chem., **68**, 605 (2003).
- 54) Fluorinated Heterocyclic Compounds. An Assay on the Photochemistry of Some Fluorinated 1-Oxa-2-azoles: An Expedient Route to Fluorinated Heterocycles
S. Buscemi, A. Pace, I. Pibiri, N. Vivona and T. Caronna.
J. Fluorine Chem., **125**, 165 (2004)
- 55) Photoinduced Functionalization of Diterpenes: Photochemical Behaviour of Grandiflorolic acid in Methanol and Acetonitrile.
S. Buscemi, S. Rosselli, M. Bruno, L. Scaglioni, N. Vivona, and F. Piozzi.
J. Photochemistry and Photobiology A: Chemistry, **162**, 381 (2004).
- 56) Fluorinated Heterocyclic Compounds. The First Example of an Irreversible Ring-Degenerate Rearrangement on Five-Membered Heterocycles by Attack of an External Bidentate Nucleophile.
S. Buscemi, A. Pace, I. Pibiri, N. Vivona, C. Z. Lanza and D. Spinelli.
Eur. J. Org. Chem., 974 (2004).
- 57) Theoretical study of photoinduced ring-isomerization in the 1,2,4-oxadiazole series
S. Buscemi, M. D'Auria, A. Pace, I. Pibiri, and N. Vivona.
Tetrahedron, **60**, 3243, (2004).
- 58) The Photochemistry of Fluorinated Heterocyclic Compounds. An Expedient Route for the Synthesis of Fluorinated 1,3,4-Oxadiazoles and 1,2,4-Triazoles.
A. Pace, I. Pibiri, S. Buscemi, N. Vivona, and L. Malpezzi
J. Org. Chem., **69**, 4108 (2004).
- 59) Fluorinated Heterocyclic Compounds. A Photochemical Approach to a Synthesis of Fluorinated Quinazolin-4-ones
S. Buscemi, A. Pace, A. Palumbo Piccionello, I. Pibiri, and N. Vivona.
Heterocycles, **63**, 1619 (2004).
- 60) Molecular Rearrangements of 1-oxa-2-azoles as an Expedient Route to Fluorinated Heterocyclic Compounds.
A. Pace, I. Pibiri, S. Buscemi, and N. Vivona

Heterocycles, **63**, 2627 (2004).

- 61) Fluorinated Heterocyclic Compounds A Photocemical Approach to a Synthesis of Polyfluoroaryl-1,2,4-Triazoles

S. Buscemi, A. Pace, A. Palumbo Piccionello, I. Pibiri, and N. Vivona.

Heterocycles, **65**, 387 (2005).

- 62) Heterocyclic Rearrangements in Constrained Media. A Zeolite-Directed Photorearrangement of 1,2,4-Oxadiazoles

A. Pace, **S. Buscemi**, and N. Vivona

J. Org. Chem., **70**, 2322 (2005).

- 63) Fluorinated Heterocyclic Compounds. An Effective Strategy for the Synthesis of Fluorinated Z-Oximes of 3-Perfluoroalkyl-6-phenyl-2H-1,2,4-triazin-5-ones via a Ring-Enlargement Reaction of 3-Benzoyl-5-perfluoroalkyl-1,2,4-oxadiazoles and Hydrazine

S. Buscemi, A. Pace, A. Palumbo Piccionello, G. Macaluso, N. Vivona, D. Spinelli and G. Giorgi.

J. Org. Chem., **70**, 3288 (2005).

- 64) A Survey on the Synthesis of Fluorinated Heteroaromatic Compounds. Part 1: Five-membered Rings with More than Two Heteroatoms.

A. Pace, **S. Buscemi**, and N. Vivona

Org. Prep. Proc. Int., **37**, 447 (2005).

- 65) One-Pot Synthesis of Fluorinated 2-Amino-Pyrimidine-N-Oxides. Competing Pathways in the Four-atom Side-chain Rearrangements of 1,2,4-Oxadiazoles.

S. Buscemi, A. Pace, A. Palumbo Piccionello, N. Vivona and M. Pani.

Tetrahedron, **62**, 1158, (2006)

- 66) Designing Fluorous Domains. Synthesis of a Series of Pyridinium Salts Bearing a Perfluoroalkylated Azole Moiety

I. Pibiri, A. Pace, **S. Buscemi**, N. Vivona, and L. Malpezzi.

Heterocycles, **68**, 307 (2006).

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A handwritten signature in black ink, appearing to read 'S. Buscemi', with a stylized, cursive script.