Farhad Shirini

Personal CV

Personal data:

First name: Farhad
Family name: Shirini
Date and place of birth: 13/04/1965, Tehran
Nationality: Iranian
Sex: Male
Marital Status: Married

Postal address:
Department of Chemistry,
College of Science,
University of Guilan,
Rasht, Iran.

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Education:

Ph.D., Organic Chemistry, Shiraz University, Shiraz, Iran (1991-1995)
Thesis title:
Part A: Synthesis of some stable derivatives of cyclobutadiene
Part B: New synthetic methodologies
a: Some application of WCl6 in organic chemistry
b: Deprotection and oxidative deprotection of trimethylsilyl ethers
Supervisor: Professor Habib Firouzabadi

M.Sc., Organic Chemistry, Shiraz University, Shiraz, Iran (1988-1990)
Thesis title: Reactions of epoxides with one electron transfer agents
Supervisor: Professor Naser Iranpoor

B.Sc., Chemistry, Shiraz University, Shiraz-Iran (1983-1987)

Employment:

Professor of Organic Chemistry, University of Guilan, Rasht, Iran

Memberships:

Editor-in-Chief: Journal of the Multicomponent Reactions.
Editorial Board: International Journal of Chemical Sciences.

Editorial Board: Journal of Nano-structure in Chemistry.
Editorial Board: Organic Chemistry Research.

Awards:

1. *Distinguished Researcher of Guilan Provience*, **2003**.
2. *Distinguished Researcher of The University of Guilan*, **2003**.
3. *Ditinguished Researcher of The University of Guilan*, **2004**.
4. *Ditinguished Researcher of The University of Guilan*, **2005**.
5. *Ditinguished Researcher of the College of Science of The University of Guilan,* **2007**.
6. *Ditinguished Professor of The University of Guilan*, **2007**.
7. *One of the distinguished scientists in OIC countries, introduced by COMSTECH in :"Leading scientists and engineers of OIC member states", Islamabad, Pakistan,* 2008. *http://www.comstech.org*.
8. Distinguished Researcher of Guilan Provience, **2008**.
9. *Distinguished Researcher of Guilan Provience*, **2009**.
10. Ditinguished Professor of The University of Guilan, **2009**.
***11. Introduction as one of the one percent highly cited scientists of the world (ISI), from* 2009.**
12. Ditinguished Professor of The University of Guilan, **2010**.
13. Ditinguished Professor of The University of Guilan, **2011**.
14. Candidate for Eni Award 2013.
15. Distinguished Researcher of The University of Guilan, **2012**.
16. *Distinguished Researcher of The University of Guilan,* **2013**.
17. *Distinguished Researcher of The University of Guilan,* **2014.**
18. ***Distingushed Professor of Organic Chemisty in Iran, 2014 (Selected by Iranian Chem. Soc.).***
19. Ditinguished Professor of The University of Guilan, **2015**.
20. Candidate for Eni Award 2015.
*21. Ditinguished Lecturer of The University of Guilan**, 2017**.*
*22. Distinguished Researcher of The University of Guilan, **2017.***
*23. Distinguished Researcher of The University of Guilan, **2018.***
*24. Ditinguished Professor of The University of Guilan, **2018**.*
*25. Ditinguished Researcher of The University of Guilan, **2019**.*
*26. Ditinguished Professor of The University of Guilan, **2019**.*
*27. Ditinguished Professor of The University of Guilan, **2020**.*
*28. Distinguished Researcher of The University of Guilan, **2021.***
*29. Ditinguished Professor of The University of Guilan, **2022.***
30. Ditinguished Professor of The Islamic Republic of IRAN, 2022.
31. Ditinguished Researcher of The Islamic Republic of IRAN, 2023.
32. Ditinguished Researcher for The 37th Khwarizmi International Award, 2024.
33. Introduction as one of the half percent highly cited scientists of the world (ISI), in 2025.

h-Index: 48; Citations: 9099

Research Interests:

1. Oxidation of organic compounds in solution and solvent free conditions with chromium (IV) and Ce(IV) based oxidants.
2. Oxidation of organic compounds with polymer supported reagents.
3. Synthesis and ring opening of three membered heterocyclic compounds.
4. Synthesis of new derivatives of silica gel and investigation on their applications in organic chemistry.
5. Investigation in the application of hydrogen saulfates in organic reactions.
6. Preparation, characterization and use of nanocatalysts in organic reactions.
7. Preparation and use of ionic liquids and deep eutectic solvents in organic reactions.
8. Introduction of solid supports for the stabilization of catalysts.

Master of Science Students:

1. A. Akbar
2. F. Jalili
3. M. Azadbar
4. A. Pourhabib
5. B. Mallakpour
6. F. Parsa
7. M. Khaleghi
8. H. Karimi
9. S. Dezyani
10. K. Mohammadi
11. M. Abedini
12. A Safari
13. Z. Hejazi
14. S. Torabi
15. E. Mollarazi
16. A. Rahmanzadeh
17. H. Abedini
18. H. Aghajanpour
19. M. Paktinat
20. A. Shahriari
21. S. Saeidi
22. M. Khademian
23. Z. Neyestani
24. M. Mahdavi Pop-Kiadeh
25. A. R. Mousazadeh Hassani
26. D. Imani
27. A. R. Sakhaei
28. P. Sadeghzadeh
29. M. Ghasemi
30. M. Safarpour-Langroudi
31. A. Pourvali
32. K. Mirhashemi-Jorshari
33. T. Mostashari

34. M. Alipour Khoshdel
35. M. Ghods
36. M. Akbari
37. M. Mashhadi Nejad
38. M. Naghdi
39. O. Goli Jolodar
40. M. Ghazi Jirdehi
41. S. Sarvi Beigbaghlou
42. M. Abroon
43. R. Poorhasan
44. P. Fazeli
45. A. Rahmaninia
46. S. Esmaeili
47. Shabani
48. Zamani
49. A. Nasiri Abkenar
50. M. Shamsi-Sani
51. A. Shoja
52. Kafie
53. M. Biglari
54. M. Poorghasemi
55. Moayedi
56. Zarrabzadeh
57. Mazloumi
58. Makhsous
59. Mousapour
60. Omran
61. Akbari
62. Ghauri
63. Jashnani
64. Seyedi
65. Rastgoo
66. Nabi-Nia
67. Nazemi
68. Shirzad
69. Moridani
70. Momenpour
71. Nasiri
72. Jamasbi
73. Irankhah
74. Askari
75. Darvishzad
76. Omidi
77. Nazari
78. Pakpour
79. Rahmati

80. Sahmani
81.Yeganeh
82. Hosseyni
83. Azizi
84. Haghpanah
85. Kakavand
86. Asadi
87. Ramtin Yari-Nia
88. Saeidavi
89. Ale-Aba
90. Khedmatgozar
91. Navvabi (Int. Stud.)
92. Reza Rezaei
93. Janan Metghalchi
94. Ramezanpoor
95. Sepideh Poordasht
96. Mehran Hosseyni Moghaddam
97. Fatemeh Shahi
98. Shayan Aminian
99. Nejad Ramezan
100. Rahimi
101. Esmaeili
102. Nabizadeh (Int.Stud.)
103. Mir Agha Saei (Int. Stud.)
104. Fekrat (Int. Stud.)
105. Sajjad Samiei
106. Nima Varaei
107. Hadis Sepoo
108. Sadeghi
109. Shemshadi
110. Mirzaei
111. Frutan (Int. Stud.)
112. Mohaddeseh Mohammadi Nejad
113. Aghaei
114. Rahimizadeh
115. Asadi
116. Pedram Ashoori
117. Mahla Dorostkar
118. Sarvnaz Raeoofi
119. Nazanin Jalayer
120. Mohaddesh Amiri
121. Zahra Vazehi
122. Sara Asghari
123. Negin Khajavi
124. Fatehi Fard
125. Kimia Alimohammadi

126. Rezaei
127. Hassani
128. Paria Bolandi
129. Ayda Samadi
130. Yalda Zaman Sani
131. Mohammadian
132. Esmaeili
133. Karimi

Ph. D. Students:

1. H. Taherpoor Nahzomi
2. A. R. Abri
3. M. Abedini
4. J. Albadi
5. V. Atghia
6. N. Ghaffari Khaligh
7. S. Akbari
8. M. Seddighi
9. M. Mohsenimehr
10. K. Mohammadi
11. L. Samavi
12. Z. Dalil Heyrati
13. M. Safarpour-Langroudi
14. M. Mashhadi Nejad
15. O. Goli-Jolodar
16. N. Daneshvar
17. H. Nazarpour
18. F. Kamali
19. R. Poorhasan
20. Haghighat
21. Hariri
22. Hasanzadeh
23. M. Shamsi-Sani
24. Zabihzadeh
25. Mousazadeh Moghaddam
26. Karimi
27. Niloofar Safari
28. Poorghasemi
29. Sharifi
30. Mazloumi
31. Khakiani
32. Alipour
33. Biglari
34. Pourayoob
35. Rahmanzadeh
36. Seyyedi

37. Abdollahi-Basir
38. Pir-Delzandeh
39. Sahra Peyma
40. Naddaf
41. Yazdanfar
42. Nazemi
43. Darvishzad
44. Jashnani
45. Hosseyn Khorram Abadi
46. Jahangir Vazifeh
47. Alijani
48. Janan Metghalchi
49. Ramezanpoor
50. Shafiei
51. Jannesar
52. Hanifi
53. Bagherian
54. Rahimizadeh
55. Haghgoo
56. Moosavian
57. Ghasemi
58. Yaghoobzadeh
59. Nesa Haghgoo
60. Shakoori
61. Farahi
62. Nasiri Abkenar
63. Omidi

Post Doc Students:

1. Mostafa Golshekan

Title of the project:

Synthesis and characterization of new nano-composites and evaluation of their performance as heterogeneous and recyclable catalysts in chemical processes.

2. Seyyedeh Cobra Azimi

Title of the project:

Use of advanced oxidation process for pre-treatment of chipboard wastewater and formalin removal of Arian wood Company.

3. Mahdieh Haghighat

(The first international Post Doc student of the University of Guilan-In cooperation with Prof. Pascal Van Der Voort-Ghent University)

Title of the project:

Synthesis and characterization of periodic mesoporeous organosilicas for CO_2 uptake and heterogeneous catalysis

4. Mostafa Zamani

Title of the project:

Improving efficacy of photodynamic therapy utilizing D-Block $AxB1\text{-}xC_2O_4$ compounds for Breast Cancer treatment: Synthesis, characterization, biocompatibility, *In vitro* and *In vivo* study.

5. Masoumeh Mazloumi

Title of the project:

Preparation, identification and use of the active nanozymes based on metal-organic frameworksin the promotion of the synthesis of some the important organic heterocyclic compound

6. Eisa Ebrahimi

Title of the project:

Simulation and application of natural mineral nanoparticles to reduce the concentration of phosphorus and heavy metals in Anzali wetland

Book Chapters:

1. A. Mohammad, Inamuddin, "Green Solvents II: Properties and applications of ionic liquids", Springer, Netherland, 2012, Chapter 12.

2. A. Mohammad, Inamuddin, "Green Solvents II: Properties and applications of ionic liquids", Springer, Netherland, 2012, Chapter 14.

3. Farhad Shirini, Mohadeseh Seddighi, Masoumeh Abedini, and Laleh Samavi, "Applications of Nano-Catalysts in Protecting Organic Functional Groups", Encyclopedia of nanoscience and nanotechnology, 2016 (30 pages).

4. Farhad Shirini, Omid Goli-Jolodar, Mohadeseh Seddighi, "Applications of Nanocatalysts in Multi-Component Reactions", Encyclopedia of nanoscience and nanotechnology, 2016 (83 pages).

Referee for National and International Journals:

a. Journal of the Organic Chemistry
b. Synthesis
c. Letters in Organic Chemistry
d. Current Organic Chemistry
e. Sulfur Chemistry
f. Arkivoc
g. Synthetic Communications
h. Journal of the Chemical Research
i. Chinese Chemical Letters
j. Bulletin of the Korean Chemical Society

k. Dyes and Pigments
l. Journal of Molecular Catalysis A: Chem.
m. Catalysis Communications
n. Phosphorus, Sulfur, Silicon and the Related Elements
o. Journal of Heterocyclic Chemistry
p. Journal of the Iranian Chemical Society
q. Scientia Iranica
r. Iranian J. Catalysis
s. RSC Adv.
t. Research on Chemical Intermediates
u. ChemistrySelect
v. Polycyclic Aromatic Compounds
w. ChemistrySelect
x. Silicon
y. Materials Chemistry and Physics
z. Chemical Papers

Publications:

A: From the M. Sc. Thesis:

1. N. Iranpoor, I. M. Baltork, F. Shirini
Cerric ammonium nitrate, as an efficient catalyst ffor mild and selective opening of epoxides in the presence of water, thiols and acetic acid. (1991) Tetrahedron, 47, 9861.

2. N. Iranpoor, F. Shirini
Tris[trinitrato Ce(IV)]paraperiodate, as an efficient heterogeneous catalyst for alcoholysis, acetolysis and hydrolysis of epoxides. (1994) Synth. Commun., 24, 1959.

3. N. Iranpoor, P. Salehi, F. Shirini
Coupling of thiols and selenols catalyzed by tris[trinitrato cerium(IV)]paraperiodate. (1995) J. Org. Prep. Procedure Int., 27, 216.

B: From the Ph. D. Thesis:

4. H. Firouzabadi, F. Shirini
Deprotection and direct oxidative deprotection of trimethylsilyl ethers to corresponding alcohols and carbonyl compounds with $[(NO_3)_3\ Ce]_3.H_2IO_6$ in an aprotic solvent. (1996) Synth. Commun., 26, 423.

5. H. Firouzabadi, F. Shirini
$[(NO_3)_3\ Ce]_2\ CrO_4$ *vs* $[(NO_3)_3\ Ce]\ CrO_4.2H_2O$ in the oxidation of trimethylsilyl ethers. (1996) Synth. Commun., 26, 649.

6. H. Firouzabadi, F. Shirini

New applications of tungsten hexachloride (WCl_6) in organic synthesis. Halo-dehydroxilation and dihalo-de-oxo-bisubstitution reactions.
(1996) Tetrahedron, 52, 14929.

C: From the Research Group Studies:

1-1. Zolfigol, M.A.*, Shirini, F., Choghamarani, A.G., Taqian-Nasab, A., Keypour, H., Salehzadeh, S.
Chemoselective N-nitrosation of secondary amines under mild and heterogeneous conditions *via* in situ generation of NOCI.
(2000) Journal of Chemical Research - Part S, (9), 420-422.

2-1. Shirini, F.*, Tajik, H., Aliakbar, A., Akbar, A.
Oxidation of benzyl alcohols and acyloins with $(NO_3)_3CeBrO_3$.
(2001) Synthetic Communications, 31 (5), 767-770.

3-2. Zolfigol, M.A.*, Chehardoli, G., Shirini, F., Mallakpour, S.E., Nasr-Isfahani, H.
Oxidation of urazoles to their corresponding triazolinediones under mild and heterogeneous conditions *via* in situ generation of NO^+IOx^-.
(2001) Synthetic Communications, 31 (13), 1965-1970.

4-3. Shirini, F.*, Azadbar, M.R.
$[(NO_3)_3Ce]_3.H_2IO_6$: As a versatile and efficient reagent for cleavage of carbon-nitrogen double bonds under heterogeneous and non-aqueous conditions.
(2001) Synthetic Communications, 31 (24), 3775-3779.

5-4. Shirini, F.*, Tajik, H., Jalili, F.
Polymer supported reagents: Oxidative selection between benzylic alcohols.
(2001) Synthetic Communications, 31 (19), 2885-2889.

6-5. Zolfigol, M.A.*, Choghamarani, A.G., Shirini, F., Keypour, H., Salehzadeh, S.
Chemoselective *N*-nitrosation of secondary amines under mild and heterogeneous conditions.
(2001) Synthetic Communications, 31 (3), 359-365.

7-6. Shirini, F.*, Zolfigol, M.A., Lakouraj, M.M., Azadbar, M.R.
Efficient oxidation of sulfides to sulfoxides and of thiols to disulfides with aqueous HIO_3.
(2001) Russian Journal of Organic Chemistry, 37 (9), 1340-1341.

8-7. Shirini, F.*, Zolfigol, M.A., Azadbar, M.R.
Oxidation of benzyl alcohols under mild heterogeneous conditions.
(2001) Russian Journal of Organic Chemistry, 37 (11), 1600-1602.

9-8. Shirini, F.*, Pourhabib, A., Azadbar, M.R.
Oxidation of benzylic alcohols by tris[trinitrato Ce(IV)] paraperiodate in solvent free condition.
(2001) Asian Journal of Chemistry, 13 (4), 1637-1639.

10-9. Shirini, F.*, Ali Zolfigol, M., Pourhabib, A.
$ZrCl_4$/wet SiO_2 promoted oxidation of alcohols by $(NH_4)_2[Cr_2O_7]$ in solution and solvent free condition.
(2001) Journal of Chemical Research - Part S, (11), 476-477.

11-10. Zolfigol, M.A.*, Shirini, F., Ghorbani Choghamarani, A., Shiri, A., Keypour, H., Salehzadeh, S.
Chemoselective *N*-nitrosation of secondary amines under mild and heterogeneous conditions with $ZrCl_4/NaNO_2$.
(2001) Asian Journal of Chemistry, 13 (3), 849-853.

12-11. Shirini, F.*, Zolfigol, M.A., Mallakpour, B., Mallakpour, S.E., Hajipour, A.R.
Oxidation of alcohols by $(NH_4)_2Cr_2O_7$ in solution and under solvent-free conditions.
(2001) Australian Journal of Chemistry, 54 (6), 405-406.

13-1. Shirini, F.*, Zolfigol, M.A., Azadbar, M.R.
Efficient solvent free deoximation and dehydrazonation with HIO_3 in the presence of wet SiO_2.
(2002) Synthetic Communications, 32 (3), 315-318.

14-2. Shirini, F.*, Zolfigol, M.A., Pourhabib, A.
Efficient cleavage of carbon-nitrogen double bonds under solvent free conditions.
(2002) Synthetic Communications, 32 (18), 2837-2841.

15-3. Zolfigol, M.A.*, Shirini, F., Ghorbani Choghamarani, A.
Silica chloride/$NaNO_2$ as a novel heterogeneous system for the nitrosation of secondary amines under mild conditions.
(2002) Synthetic Communications, 32 (12), 1809-1813.

16-4. Dezhampanah, H., Shirini, F.*
Redox polymerization of acrylonitrile initiated by the system tris trinitratocerium(IV) paraperiodate-propane-1,2-diol.
(2002) Asian Journal of Chemistry, 14 (2), 1111-1113.

17-5. Shirini, F.*, Zolfigol, M.A., Mallakpour, B., Mallakpour, S.E., Hajipour, A.R., Baltork, I.M.
A mild and efficient method for cleavage of C=N using $Mg(HSO_4)_2$ in the presence of wet SiO_2.
(2002) Tetrahedron Letters, 43 (8), 1555-1556.

18-6. Shirini, F.*, Mamaghani, M., Parsa, F., Mohammadpoor-Baltork, I.
Efficient cleavage of C=N under heterogeneous and non-aqueous conditions.
(2002) Bulletin of the Korean Chemical Society, 23 (11), 1683-1684.

19-7. Zolfigol, M.A.*, Shirini, F., Choghamarani, A.G., Mohammadpoor-Baltork, I.
Silica modified sulfuric acid/$NaNO_2$ as a novel heterogeneous system for the oxidation of 1,4-dihydropyridines under mild conditions.
(2002) Green Chemistry, 4 (6), 562-564.

20-8. Mamaghani, M., Shirini, F., Parsa, F.*
Prolinium chlorochromate as a new mild and efficient oxidant for alcohols.
(2002) Russian Journal of Organic Chemistry, 38 (8), 1164-1166.

21-9. Tajik, H.*, Shirini, F.*, Farahkah, O.R., Lakouraj, M.M., Baltork, I.M.
Coupling of thiols catalyzed by trinitratocerium(IV) bromate.
(2002) Russian Journal of Organic Chemistry, 38 (9), 1384-1385.

22-1. Shirini, F.*, Zolfigol, M.A., Khaleghi, M., Mohammadpour-Baltork, I.
Silica chloride/wet SiO_2 as a novel heterogeneous system for deprotection of oximes, hydrazones, and semicarbazones.
(2003) Synthetic Communications, 33 (11), 1839-1844.

23-2. Shirini, F.*, Zolfigol, M.A., Mallakpour, B., Moha-mmadpour-Baltork, I., Mallakpour, S.E., Hajipour, A.R.
Solvent free oxidation of thiols by $(NH_4)_2Cr_2O_7$ in the presence of $Mg(HSO_4)_2$ and wet SiO_2.
(2003) Journal of Chemical Research - Part S, (1), 28-29.

24-3. Shirini, F.*, Lakouraj, M.M., Mohammadpour-Baltork, I., Asadi, D.
Polymer supported reagents: Oxidative selection between thiols.
(2003) Synthetic Communications, 33 (11), 1833-1837.

25-4. Zeynizadeh, B.*, Shirini, F.
Mild and efficient reduction of α,β-unsaturated carbonyl compounds, α-diketones and acyloins with sodium borohydride/Dowex1-x8 system.
(2003) Bulletin of the Korean Chemical Society, 24 (3), 295-298.

26-5. Shirini, F.*, Mohammadpoor-Baltork, I., Hejazi, Z., Heravi, P.
Caffeinilium chlorochromate: As a mild and efficient reagent for oxidation of alcohols and chemoselective oxidative cleavage of oximes.
(2003) Bulletin of the Korean Chemical Society, 24 (4), 517-518.

27-6. Shirini, F.*, Zolfigol, M.A., Mohammadi, K.
Acetyl-tethering silica as a novel reagent for acetylation of alcohols under mild and heterogeneous conditions.
(2003) Bulletin of the Korean Chemical Society, 24 (4), 519-520.

28-7. Zeynizadeh, B., Shirini, F.*
Mild and efficient method for reduction of aldehydes and ketones with $NaBH_4$ in the presence of Dowex1-x8.
(2003) Journal of Chemical Research - Part S, (6), 335-339.

29-8. Shirini, F.*, Zolfigol, M.A., Mohammadi, K.
Acetylation and formylation of alcohols in the presence of silica sulfuric acid.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (7), 1617-1621.

30-9. Shirini, F.*, Zolfigol, M.A., Mohammadi, K.
A mild and efficient method for chemoselective silylation of alcohols using hexamethyldisilazane in the presence of silica chloride.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (7), 1567-1570.

31-10. Zolfigol, M.A.*, Shirini, F., Choghamarani, A.G., Ghofrani, E.
Silica chloride/$NaNO_2$ as a novel heterogeneous system for production of thionitrites and disulfides under mild conditions.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (7), 1477-1481.

32-11. Shirini, F.*, Zolfigol, M.A., Khaleghi, M.
Oxidation of alcohols using $(NH_4)2Cr_2O_7$ in the presence of silica chloride/wet SiO_2 in solution and under solvent free conditions.
(2003) Bulletin of the Korean Chemical Society, 24 (7), 1021-1022.

33-12. Zolfigol, M.A.*, Shirini, F., Ghorbani Choghamarani, A., Mohammadpoor-Baltork, I.
Silica chloride/NaNo2 as a novel heterogeneous system for the oxidation of 1,4-dihydropyridines under mild conditions via in situ generation of NOCl.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (8), 1709-1715.

34-13. Shirini, F.*, Ali Zolfigol, M., Pourhabib, A.
Chemoselective solvent-free deoximation by $(NH_4)_2Cr_2O_7$ in the presence of $ZrCl_4$ on wet SiO_2.
(2003) Russian Journal of Organic Chemistry, 39 (8), 1191-1192.

35-14. Shirini, F.*, Zolfigol, M.A., Khaleghi, M.
Silica chloride as a mild and efficient reagent for acetylation of alcohols.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (9), 1999-2002.

36-15. Zolfigol, M.A., Shirini, F., Chogamarani, A.G.
Silica chloride/$NaNO_2$ as a novel heterogeneous system for the nitration of phenols under mild conditions.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (9), pp. 2019-2025.

37-16. Shirini, F.*, Zolfigol, M.A., Safari, A., Mohammadpoor-Baltork, I., Mirjalili, B.F.
Regeneration of carbonyl compounds by cleavage of C=N bonds under mild and completely heterogeneous conditions.
(2003) Tetrahedron Letters, 44 (40), 7463-7465.

38-17. Shirini, F.*, Zolfigol, M.A., Khaleghi, M.
Efficient oxidation of alcohols with $KBrO_3$ in the presence of silica chloride and wet SiO_2.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (10), 2107-2110.

39-18. Shirini, F.*, Zolfigol, M.A., Mohammadi, K.
Silica sulfuric acid as an efficient reagent for the synthesis of symmetrical ethers under mild and heterogeneous conditions.

(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (11), 2357-2361.

40-19. Shirini, F.*, Zolfigol, M.A., Abedini, M., Salehi, P.
Oxidation of alcohols using $(NH_4)_2Cr_2O_4$ in the presence of $Al(HSO_4)_3$ and wet SiO_2.
(2003) Mendeleev Communications, 13 (6), pp. 265-267.

41-20. Shirini, F.*, Zolfigol, M.A., Abedini, M., Salehi, P.
$Al(HSO_4)_3$ catalyzed acetylation and formylation of alcohols.
(2003) Bulletin of the Korean Chemical Society, 24 (11), 1683-1685.

42-21. Zolfigol, M.A.*, Poor-Baltork, I.M., Mirjalili, B.F., Shirini, F., Salehzadeh, S., Keypour, H., Ghorbani-Choghamarani, A., Zebarjadian, M.H., Mohammadi, K., Hazar, A.
Silica sulfuric acid/wet SiO_2 as a novel heterogeneous system for cleavage of carbon nitrogen double bonds under mild conditions.
(2003) Phosphorus, Sulfur and Silicon and the Related Elements, 178 (12), 2735-2743.

43-1. Shirini, F.*, Zolfigol, M.A., Khaleghi, M.
Oxidative coupling of thiols in solution and under solvent-free conditions.
(2004) Mendeleev Communications, 14 (1), 34-35.

44-2. Shirini, F.*, Zolfigol, M.A., Mohammadi, K.
Silica sulfuric acid as a mild and efficient reagent for the acetylation of alcohols in solution and under solvent free conditions.
(2004) Bulletin of the Korean Chemical Society, 25 (2), 325-327.

45-3. Shirini, F.*, Zolfigol, M.A., Abedini, M.
$Al(HSO_4)_3$ as an efficient catalyst for the acetylation of alcohols in solution and under solvent free conditions.
(2004) Monatshefte fur Chemie, 135 (3), 279-282.

46-4. Tajbakhsh, M.*, Lakouraj, M.M., Shirini, F., Habibzadeh, S., Nikdoost, A.
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