**Curriculum Vitae**

**Ryan Beni (PhD)**

**Professional Preparation**

Tabriz University, B. S. Applied Chemistry, 1995

Sharif University of Technology, M. S. Organic Chemistry, 1997

Sharif University of Technology, Ph. D. Organic Chemistry, 2002

University of Rhode Island, Postdoc: Medicinal Chemistry, 2008

**Appointments**

Since 2012 Assistant Professor, Tennessee State University

2008-2012 Assistant Professor, Columbus State University

2004-2008 Postdoctoral Fellow, University of Rhode Island

2002-2004, Senior R & D Specialist, Toda Pharmaceutical Company

**Research interests**

Anticancer drug discovery and development by chemical modification

Synthesis and evaluation of phosphorylated nucleosides as anti-HIV agents

Synthesis and evaluation of modified oligodeoxynucleotides

**Courses taught**

**Undergraduate:** organic chemistry 1 and lab, organic chemistry 2 and lab, general chemistry 1 lab, general chemistry 2 lab, general chemistry for non- science majors lab, biochemistry lab

**Graduate:** polymer chemistry, spectroscopic identification of organic compounds

**Synergistic Activities**

2010-2012 Chair of faculty development grant committee, Columbus State University

2010 Recipient of the Columbus State University academic achievement award for individual contribution to field in research/scholarly activity

2008-2009 Developed new undergraduate and graduate courses in polymer division

2002 Recipient of the Sharif University of Technology outstanding graduate of the year award for the best PhD graduate of the year at the Sharif University of Technology

2000-2001 Recipient of the German research society award for conducting research at the Justus-Liebig University.

1998-2000 Managing editor of Sharif Chemistry Journal, Sharif University of Technology

**Affiliation in Professional Societies**

2004-present, American Chemical Society (ACS)

2006-present, American Association for advancement of Science (AAAS)

2010-2012, Georgia Academy of Science (GAS)

2012-present, Tennessee Academy of Science (TAS)

2012-present, American Association for Cancer Research (AACR)

**Patent**

**Beni, Y.** and Keykavous Parang; Modified oligonucleotidescontaining diphosphodiester internucleotide linkages. *WO 2007030227*, **2007.**

**Online Glossary**

**Beni, Y.** Proteins and peptides terms in chemistry and biology including technical terms for peptide synthesis. *Babylon Ltd*, **2014.**

**Publications**

1. **Beni,** Y., Dash, C., Parang, K., Synthesis of *β*-triphosphotriester pronucleotides, *Tet. Letters,* **2015***, 56,* 2247–2250.
2. Shirazi, A., Rao, K., Tiwari, R., Oh, D., Sullivan, B., Kumar, A., **Beni, Y.**, Parang, K., Cyclic Peptide-selenium nanoparticles as drug transporters, *Molecular pharmaceutics.,* **2014**, 11 (10) 3631-3641.
3. Pericherla K., Shirazi, A., Rao, K., Tiwari, R., DaSilva, N., McCaffrey, K., **Beni, Y.**, González-Sarrías, A., Seeram, N., Parang, K., Kumar, A., Synthesis and antiproliferative activities of quebecol and its analogs, *Bioorg. Med. Chem. Lett.,* **2013**, 23 (2013) 5329–5331.
4. Dash,C., **Beni,** Y., Hanley, M. J., Pandhare, J., Gotte, M., Le Grice, S. F. J., Parang, K., Inhibition of multi-drug resistant HIV-1 reverse transcriptase by nucleoside β-triphosphates, *Bioorg. Med. Chem. Lett.,* **2011,** 21, 3519–3522.
5. Gupta, A., Mandal, D., **Beni, Y.,** Parang, K., Bothun, G., Hydrophobicity Drives the Cellular Uptake of Short Cationic Peptide Ligands, *Eur. Biophys. J.,* **2011**, 40, 727–736.
6. **Beni,** Y., Tiwari, R., Swepsonc C., Pandharec, J., Dash, C., Donceld, G. F., Parang, K., Synthesis and anti-HIV activities of bis-(*cyclo*Saligenyl) pronucleotides derivatives of 3′-fluoro-3′-deoxythymidine and 3′-azido-3′-deoxythymidine, *Tet. Letters,* **2011***, 52,* 802-805.
7. **Beni,** Y., Dash,C., Hanley, M. J., Le Grice, S. F. J., Parang, K., Solid-Phase Synthesis of 5'-*O*-β,γ-Methylenetriphosphate Derivatives of Nucleosides and Evaluation of Their Inhibitory Activity Against HIV-1 Reverse Transcriptase, *Tet. Letters,*.**2010***, 51,* 3010–3013.
8. **Beni,** Y., Dash,C., Hanley, M. J., Le Grice, S. F. J., Agarwal., H. K., Parang, K., Synthesis of Nucleoside 5'-*O*-α,β-Methylene-β-Triphosphates and evaluation of their potency towards inhibition of HIV-1 reverse transcriptase, *Org. Biomol. Chem.,* **2010***, 8, 1271–1274*.
9. **Beni, Y**., Tiwari, R., Sun, G., Parang, K.; Synthesis of nucleoside mono-, di-, and triphosphoramidates from solid-phase cycloSaligenyl phosphitylating reagents. *Org. Lett*., **2009,** *11*, 2157-2160.
10. Ye,G., Schuler, A., **Beni,Y.,** Morgan, J. R., Faruqui,A., Huang, K., Sun,G., Zebala, J. A., Parang, K. Synthesis and evaluation of peptides containing iminodiacetate groups as binding ligands of the Src SH2 domain. *Bioorg. Chem.* **2009**, 37, 133-142.
11. **Beni, Y.;** Parang, K.; Solid-supported reagents for synthesis of nucleoside monothiophosphates, dithiodiphosphates, and trithiotriphosphates, *Current Protocols in Nucleic Acid Chemistry*,**2009***,* Unit 13.9, Supplement 33, Wiley.
12. **Beni, Y.;** Parang, K.; Solid-supported diphosphitylating and tr iphosphitylating reagents for nucleoside modiﬁcation, *Current Protocols in Nucleic Acid Chemistry*,**2008**, Unit 13.8, Supplement 33, Wiley.
13. **Beni, Y.;** Parang, K.; Synthesis and evaluation of oligodeoxynucleotides containing internucleotide diphosphodiester linkages, *Angew. Chem. Int. Ed.****,* 2007**, 46, 4739-4743.
14. **Beni, Y**.; Parang, K., Solid-phase synthesis of symmetrical 5′,5′-dinucleoside mono-, di-, tri-, and tetraphosphodiesters, *Org. lett.,***2007**, 9, 4483-4486*.*
15. Bhandari, R.; Saiardi, A.; **Beni, Y.;** Snowman, A. M.; Resnick, A. C.; Kristiansen, T. Z.; Molina, H.; Pandey A.; Werner, J. K.; Juluri, K. R.; Xu, Y.; Prestwich, G. D.; Parang, K.; Snyder S. H., Protein pyrophosphorylation by inisitol pyrophosphates is a posttranslational event, ***Proc. Nat. Acad. Sci. U.S.A.****,* **2007**, 104, 15305-15310.
16. **Beni, Y.,** Hanley, M. J., White, M., Ayrapetov, M., Lin, X., Sun, G., Parang, K., Metal-binding properties of a dicysteine-containing motif in protein tyrosine kinases, *ChemBioChem,* **2007**, 8, 1592-1605.
17. Kumar, A.; Ye, G.; **Beni, Y.**; Parang K., Synthesis of polymer-bound 4-acetoxy-3-phenylbenzaldehyde derivatives: Application in solid-phase organic synthesis, *J. Org. Chem.,* **2006,** 71, 7915-7918.
18. **Beni, Y.;** Parang, K., Solid-phase synthesis of dinucleoside and nucleoside-carbohydrate phosphodiesters and thiophosphodiesters**.***J. Org. Chem*., **2006**, 71, 6693-6696.
19. **Beni, Y.;** Parang, K., Application of a Solid-Phase *β*-Triphosphitylating Reagent in the Synthesis of Nucleoside *β*-Triphosphates, *J. Org. Chem.,***2006**, 71, 5837-5839.
20. Lin Xiaofeng; Wang Yuehao; **Beni, Y.;** Parang, K.; Sun Gongqin, Structural Basis for Domain-Domain Communication in a Protein Tyrosine Kinase, the C-terminal Src Kinase. *J Mol Biol.*, **2006**, 357, 1263-1273.
21. **Beni, Y.;** Parang, K., Solid-phase reagents for selective monophosphorylation of carbohydrates and nucleosides *J. Org. Chem.,***2005**, 70, 1100-1103.
22. **Beni, Y.;** Parang, K., Polymer-bound oxathiaphospholane: a solid-phase reagent for regioselective monothiophosphorylation and monophosphorylation of nucleosides and carbohydrates, *Org. lett.,***2005**, 7, 1955-1958.
23. **Beni, Y.;** Parang, K., Selective diphosphorylation, dithiodiphosphorylation, triphosphorylation and trithiotriphosphorylation of unprotected carbohydrates and nucleosides. *Org. lett.,***2005**, 7, 5589-5592**.**
24. Hashemi, M. M.; Ghazanfari, D.; **Beni, Y.**; Karimi-Jaberi, Z.; Ezabadi, A., Oxidation of aldehydes into carboxylic acids and esters using 4-amino-2-chloroperbenzoic acid supported on silica gel. *Synth. Commun.,* **2005**, 35, 1103-1107.
25. Hashemi, M. M.; Rahimi, A; Karimi-Jaberi, Z.; **Beni, Y.**, A mild and efficient oxidation of benzylic alcohols without solvent using iodic acid supported on wet montmorillonite K10 or silica gel under microwave irradiation, *Acta Chim. Slov.,***2005**, 52, 86-87
26. Hashemi, M. M.; Rahimi, A.; **Beni, Y.,** Microwave-expedited synthesis of aromatic aldehydes and ketones from alkyl halides without solvent using wet montmorillonite K 10 supported iodic acid as oxidant, *Acta Chim. Slov.,* **2004**, 51, 333-336.
27. Hashemi, M. M.; **Beni, Y.**; Ghafuri, H.,Aromatization of Hantzsch 1,4-dihydropyridines by hydrogen peroxide in the presence of cobalt(II) acetate**,** *Monat. Chem.,* **2003**, 134, 107-110**.**
28. Hashemi, M. M.; **Beni, Y.,**Cobalt and manganese salts of *p-*aminobenzoic acid supported on silica gel: a versatile catalyst for oxidation by molecular oxygen, *Monat. Chem*., **2003**, 134, 411-418.
29. Mostaghim, R.; **Beni, Y.,** Novel oxidation of phenols to quinones by hydrogen peroxide in the presence of cobalt(II) and manganese(II) acetate, *Acta Chim. Slov.,* **2003**, 50, 569-572.
30. Hashemi, M. M.; **Beni, Y.,** Sodium hypochlorite-Dowex 1X8-200: a convenient oxidizing reagent. *Iran. J. Chem. & Chem. Eng*., **2002**, 21, 71-73**.**
31. Hashemi, M. M.; **Beni, Y.,** Regeneration of carbonyl compounds by oxidative cleavage of carbon-nitrogen double bonds with molecular oxygen in the presence of copper(I) chloride/kieselguhr as catalyst, *Synth. Commun.,* **2001**, 31, 295-299.
32. Mostaghim, R.; **Beni, Y.,** Synthesis of substituted 2,2' and 4,4'-bithiazoles in various solvents, *Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry,* **2001**, 40B, 498-499.
33. Hashemi, M. M.; **Beni, Y.**, Oxidation of alcohols and primary aliphatic amines to carbonyl compounds using sodium hypochlorite adsorbed on montmorillonite K10, *J. Chem. Res., Synop.,* **2000**, 224-225.
34. Hashemi, M. M.; **Beni, Y.,** Nickel(II) and iron(II)/Dowex 50W: an effective catalyst for the Baeyer-Villiger oxidation of ketones using molecular oxygen and benzaldehyde, *J. Chem. Res., Synop.,* **2000**, 196-197.
35. Hashemi, M. M..; **Beni, Y.,** Sodium Hypochlorite/Dowex 1X8-200: an effective oxidant for the oxidation of aromatic amines to quinones *J. Chem. Res., Synop.,* **1999**, 672-673.
36. Hashemi, M. M.; **Beni, Y.,** Copper(I) chloride/Kieselguhr: a versatile catalyst for oxidation of alkyl halides and alkyl tosylates to the carbonyl compounds, *J. Chem. Res., Synop.,* **1999**, 434-435.
37. Hashemi, M. M.; **Beni, Y.,** Aromatization of 1,4-dihydropyridines with oxygen or air using manganese and cobalt salts of p-aminobenzoic acid supported on silica gel as oxidizing catalysts, *Journal of Science of Iran,* **1998**, 9, 237-239.
38. Hashemi, M. M.; **Beni, Y.,** Oxidation of phenols to quinones by oxygen catalyzed by a mixture of cobalt and manganese salts of *p-*aminobenzoic acid supported on silica gel, *J. Chem. Res., Synop.,* **1998**, 138-139.

**Published Meeting Abstracts**

1. Alnakhli, J., Boadi, W., Parang, K., Shirazi, A., **Beni, Y**., Triphenylmethanol conjugates of triptorelin as anti-cancer prodrugs, *250th ACS National Meeting & Exposition,* Boston, MA, August 16-20, **2015,** Abstract # **MEDI-225.**
2. Alhamed, S., **Beni, Y**., Boadi, W., Triphenylmethanol conjugates of triptorelin as anti-lipid peroxidation agents, *250th ACS National Meeting & Exposition,* Boston, MA, August 16-20, **2015,** Abstract # **MEDI-226.**
3. **Beni, Y**., Dabke, R., Grainger, W., Radical electropolymerization of pyrrole: Improvement of conductivity in polypyrrole homopolymers, *2014 Southeastern Regional Meeting of the ACS (SERMACS)*. Nashville, TN, October 16-19, **2014,** *Abstract #* ***663****.*
4. Alhamed, S., Alnakhli, J., Boadi, W., **Beni, Y**., Design and anti-proliferative evaluation of tris(4-methoxyphenyl)methanol derivatives, *2014 Southeastern Regional Meeting of the ACS (SERMACS)*. Nashville, TN, October 16-19, **2014,** *Abstract #* ***707****.*
5. **Beni, Y**., Radical electropolymerization of thiophene: Improvement of conductivity in polythiophene homopolymers, *248th ACS National Meeting & Exposition,* San Francisco, CA, August 10-14, **2014,** Abstract # **POLY-336.**
6. **Beni, Y**., Pippas A. W., Chandravanu D., Design and anti-proliferative evaluation of cell-penetrating TPM-Dox conjugates as prodrugs, *AACR Annual Meeting 2014*, San Diego, CA, April 5-9, **2014,** Abstract # **2512.**
7. **Beni, Y**., Pippas A. W., Triphenylmethanol derivatives of triptorelin: Design and antiproliferative evaluation, *247th ACS National Meeting & Exposition,* Dallas, TX, March 16-20, **2014,** Abstract # **342.**
8. **Beni, Y**., Parang K., Synthesis and thermal stability evaluation of six-membered cyclic triphosphates containing three nucleotides, *2013 Southeastern Regional Meeting of the ACS (SERMACS)*. Atlanta, GA, November 12-16, **2013,** *Abstract #* ***1150****.*
9. **Beni, Y**., Parang K., Synthesis and anti-hiv evaluation of six-membered cyclic triphosphates containing three nucleotides, 123rd Meeting of Tennessee Academy of Science, Tullahoma, Tennessee, November 15, **2013,** *Abstract #* ***CHEM CHEM 7*.**
10. **Beni, Y**., Robinson T., Triphenylmethanol derivatives as indicators for the acid-base volumetric titrations, *246th ACS National Meeting & Exposition,* Indianapolis, IN, September 8-12, , **2013,** *Abstract #* ***135.***
11. **Beni, Y**., Tiwari R., Parang K., Synthesis of tris(*cyclo*Saligenyl) pronucleotides containing three nucleosides from 4,4',4''-methanetriyltris(2-(hydroxymethyl)phenol), *245th ACS National Meeting & Exposition,* New Orleans, LA, April 7-11, , **2013,** *Abstract #* ***808.***
12. **Beni, Y**., Tiwari R., Parang K., Synthesis and Anti-HIV Evaluation Of Tris(*Cyclo*Saligenyl) Pronucleotides, 122nd Meeting of Tennessee Academy of Science, Nashville, Tennessee, November 16, **2012,** *Abstract #* ***CHEM 2*.**
13. **Beni, Y**., Love, J. M., From food antioxidants to gold nanoparticles, determination of antioxidants in natural and processed food by gold, *243rd ACS National Meeting & Exposition,* San Diego, CA, March 25−29, **2012,** *Abstract #* ***228.***
14. **Beni, Y**. Pippas, G., Love, J. M., Evaluation of cancer preventer foods/spices by gold nanoparticles, Georgia Academy of Science Annual Meeting, Kennesaw, Georgia., March 23 – 24, **2012,** *Abstract #* ***132*.**
15. **Beni, Y**., Williams T., Seeram, N., Parang K., Triphenylmethanol derivatives: synthesis and application as acid-base indicators for acid-base titrations, *63rd Southeastern Regional Meeting of the ACS (SERMACS)*. Richmond, VA, October 26-29, **2011,** *Abstract #* ***239****.*
16. **Beni, Y**., Dash, C., Hanley, M. J., Le Grice, S. F. J., Agarwal, H. K., Parang, K., Structure-activity relationship studies of modified nucleoside β-triphosphates for polymerase and RNase H of HIV-1 reverse transcriptase, *43rd IUPAC World Chemistry Congress,* San Juan, PR, July 30-August 7, **2011,** *Abstract #* ***592*.**
17. **Beni, Y**., Shirazi, A. N., Parang, K., Metal-binding properties of cyclic peptides, *43rd IUPAC World Chemistry Congress, San Juan, PR,* July 30-August 7, **2011,** *Abstract #* ***594*.**
18. **Beni, Y**., Dash, C., Hanley, M. J., Pandhare, J., Gotte, M., Le Grice, S. F. J., Parang, K., Synthesis and evaluation of nucleoside β-triphosphates as multi-drug resistant HIV-1 RT inhibitors, *43rd IUPAC World Chemistry Congress, San Juan, PR,* July 30-August 7, **2011,** *Abstract #* ***597*.**
19. **Beni, Y**., Dabke, R., Wendell G., Radical electropolymerization of pyrrole: Improvement of conductivity in polypyrrole homopolymers, *43rd IUPAC World Chemistry Congress,* San Juan, PR, July 30-August 7, **2011,** *Abstract #* ***924*.**
20. **Beni, Y**., Love, J. M., Rugutt, J., Introducing Nanotechnology to Undergraduate Chemistry Curriculum, 42nd Middle Atlantic Regional Meeting of the American Chemical Society, College Park, MD, May 21-24, **2011,** *Abstract #* ***MARM-134*.**
21. **Beni, Y**., Gina D. N. D., Improvement of conductivity in polythiophenes, *Joint 66th Southwest and 62nd Southeast Regional Meeting of the American Chemical Society,* New Orleans, LA, December 1-4, **2010,** *Abstract #* ***SESW-351*.**
22. **Beni, Y**., Wendell C., Synthesis of modified conductivie polypyrroles, *Joint 66th Southwest and 62nd Southeast Regional Meeting of the American Chemical Society,* New Orleans, LA, December 1-4, **2010,** *Abstract #* ***SESW-323*.**
23. **Beni, Y**., Tiwari R., Parang K., Synthesis of bis(cycloSaligenyl) pronucleotides containing two nucleosides from bis(methoxymethyl)benzene-1,4-diol, *240th ACS National Meeting & Exposition,* Boston, MA, August 22-26, **2010,** *Abstract #* ***ORGN 1075*.**
24. **Beni, Y**., Carrol, B., Parang K., Synthesis of lipophilic dodecyl bis(cycloSaligenyl) nucleoside monophosphate triesters, *240th ACS National Meeting & Exposition,* Boston, MA, August 22-26, **2010,** *Abstract #* ***ORGN 1019.***
25. **Beni, Y**., Parang K., Synthesis of branched lipophilic thymidine β-triphosphate triester conjugates of anti-HIV nucleosides, *240th ACS National Meeting & Exposition,* Boston, MA, August 22-26, **2010,** *Abstract #* ***ORGN 1020.***
26. **Beni, Y**., New indicators for the acid-base volumetric titrations, Georgia Academy of Science Annual Meeting, Columbus, GA, March 26 – 27, **2010,** *Abstract #* ***CHEM* 002.**
27. **Beni, Y**., Grainger, W., Improvement of conductivity in polypyrrole homopolymers, Georgia Academy of Science Annual Meeting, Columbus, GA, March 26 – 27, **2010,** *Abstract #* ***CHEM* 001.**
28. **Beni, Y**., Tiwari, R., Doncel G. F., Parang, K., Bis(cycloSaligenyl) derivatives of nucleosides: Synthesis and anti-HIV activities, *238th ACS National Meeting & Exposition,* Washington, DC, Aug. 16-20, **2009,** *Abstract #* ***MEDI* 114.**
29. **Beni, Y.;** Tiwari, R., Parang, K., *Tris(2-(hydroxymethyl)phenol) derivatives: Synthesis and application as acid/base indicators, 238th ACS National Meeting & Exposition,* Washington, DC, Aug. 16-20, **2009,** *Abstract #* ***ANYL 117.***
30. **Beni, Y.;** Tiwari, R., Parang, K., Using polymer-bound bi(*cyclo*Saligenyl) phosphitylating reagents for the synthesis of nucleoside mono-, di-, and triphosphates***,*** *238th ACS National Meeting & Exposition,* Washington, DC, Aug. 16-20, **2009,** *Abstract #* ***ORGN 524.***
31. **Beni, Y.;** Tiwari, R., Parang, K., Application of polymer-bound salicyl alcohol for the synthesis of nucleoside mono-, di-, and triphosphoramidates***,*** *238th ACS National Meeting & Exposition,* Washington, DC, Aug. 16-20, **2009,** *Abstract #* ***ORGN 424.***
32. **Beni, Y.**, Parang, K., Solid-Phase Phosphitylating Reagents: Design and Application in the Synthesis of Phosphorylated Biomolecules, *61th Southeastern Regional Meeting of the ACS (SERMACS)*. San Juan, PR, October 20-24, **2009,** *Abstract #* ***BORG-473***
33. **Beni, Y**., Antisense ODNs Containing Diphosphodiester Internucleotide Linkages for Cancer Treatment, *8th Annual University-Wide Faculty Research Forum Series*, Columbus, GA, February 5, **2009,** Forum #**3**, *Abstract #* ***2.***
34. **Beni, Y.**, Parang, K., Laboratory Teaching of Solid-Phase Reaction, *60th Southeastern Regional Meeting of the ACS (SERMACS)*. Nashville, TN, November 12-15, **2008,** *Abstract #* ***CHED-552.***
35. **Beni, Y.,** Parang, K., Synthesis and evaluation of dendrimer modified oligodeoxynucleotides containing β-triphosphotriester internucleotide bridges, *236th ACS National Meeting & Exposition,* Philadelphia, PA, August 17-21, **2008**, *Abstract #* ***ORGN-274.***
36. **Beni, Y.;** Tiwari, R., Parang, K., Application of polymer-bound salicyl alcohol for the synthesis of nucleoside 5'-*O*-monophosphates, *236th ACS National Meeting & Exposition,* Philadelphia, PA, August 17-21, **2008**, *Abstract #* ***ORGN-660.***
37. **Beni, Y.;** Parang, K.,Circular dichroism, thermal denaturation, and nuclease stability studies of modified oligodeoxynucleotides containing mixed sequences of four nucleosides attached through diphosphodiester bridges, *234td ACS National Meeting & Exposition,* Boston, MA, August 19-23, **2007,** *Abstract #* ***ORGN-151.***
38. **Beni, Y.,** Bhandari, R., Snyder, S. H.; Parang, K.,Synthesis of pyrophosphopeptides and methylphosphopeptides*, 234td ACS National Meeting & Exposition,* Boston, MA, August 19-23, **2007**,*Abstract #* ***ORGN-903.***
39. **Beni, Y.**, Hanley, M., Agarwal, H. K.; Parang, K.,Applications of polymer-bound phosphitylating reagents in the synthesis of organophosphorus compounds*, 233rd ACS National Meeting & Exposition,* Chicago, IL, March 25-29, **2007,** ,*Abstract #* ***ORGN-240.***
40. **Beni, Y.;** Parang, K., Solid-phase synthesis of symmetrical dinucleoside monophosphodiesters, diphosphodiesters, triphosphodiesters, and tetraphosphodiesters*, 233rd ACS National Meeting & Exposition,* Chicago, IL, March 25-29, **2007,** *Abstract #* ***ORGN-640.***
41. **Beni, Y.;** Parang, K.,Interactions of transition metals with cysteine-containing peptides, *233rd ACS National Meeting & Exposition,* Chicago, IL, March 25-29, **2007,** *Abstract #* ***INOR-256.***
42. **Beni, Y.**, Hanley, M., Agarwal,H. K.; Parang, K., Synthesis of nucleoside 5'-O-beta-triphosphates containing alpha-beta methylene bridge,*233rd ACS National Meeting & Exposition,* Chicago, IL, March 25-29, **2007,** *Abstract #* ***ORGN-641.***
43. **Beni, Y.;** Parang, K., Solid-phase synthesis of 5'-O-(alpha, beta-methylene)triphosphate and 5'-O-(beta, gamma-methylene)triphosphate derivatives of nucleosides, *233rd ACS National Meeting & Exposition,* Chicago, IL, March 25-29, **2007,** *Abstract #* ***ORGN-639.***
44. **Beni, Y.;** Parang, K., Selective solid-phase beta triphosphorylation of unprotected nucleosides, *232nd ACS National Meeting & Exposition,* San Francisco, CA, September 10-14, **2006,** *Abstract #* ***ORGN-217.***
45. **Beni,Y.;**Parang, K., Synthesis of modified oligonucleotides containing diphosphate diester bridges, *232nd ACS National Meeting & Exposition,* San Francisco, CA, September 10-14, **2006,** *Abstract #* ***ORGN-218.***
46. **Beni,Y.**; Parang, K.; White, M.; Sun, G., Studying the interactions of toxic metals with protein tyrosine kinases, *230th ACS National Meeting & Exposition,* Washington, DC, Aug. 28-Sept. 1, **2005,** *Abstract #* ***MEDI-219.***
47. **Beni,Y.;**Parang, K.,Regioselective solid-phase synthesis of nucleosides and carbohydrates triphosphates and triphosphotrithioates, *230th ACS National Meeting & Exposition,* Washington, DC, Aug. 28-Sept. 1, **2005,** *Abstract #* ***ORGN-587.***
48. **Beni,Y.;** Parang, K.,Regioselective solid-phase diphosphorylation and diphosphodithioation of unprotected nucleosides and carbohydrates. *230th ACS National Meeting & Exposition,* Washington, DC, Aug. 28-Sept. 1, **2005,** *Abstract #* ***ORGN-589.***
49. **Beni,Y.;**Parang, K.,Regioselective solid-phase synthesis of dinucleoside and nucleoside-carbohydrate phosphodiesters and thiophosphodiesters using polymer-bound oxathiaphospholanes, *230th ACS National Meeting & Exposition,* Washington, DC, Aug. 28-Sept. 1, **2005,** *Abstract #* ***ORGN-588.***
50. **Beni,Y.;**Hashemi M. M., Sodium hypochlorite / Dowex 1X8-200: a convenient oxidizing reagent, *1st National Congress of Chemistry,* Free University of Iran, Tehran, Iran, 1-2 Dec. **1999***, Abstract #* ***124.***
51. **Beni,Y.;**Hashemi M. M., Sodium hypochlorite / Dowex 1X8-200: an effective oxidant for the oxidation of aromatic amines to the quinones, *7th Iranian Seminar of Organic Chemistry*, Tehran, Iran, 12-13 Sep. **1999***, Abstract #* ***204***.
52. **Beni,Y.;**Hashemi M. M., Copper (I) chloride / Kieselghur: a versatile catalyst for the oxidation of alkyl halides to the carbonyl compounds, *7th Iranian Seminar of Organic Chemistry*, Tehran, Iran, 12-13 Sep. **1999***, Abstract #* ***205***.
53. **Beni,Y.;**Hashemi M. M., Oxidation of phenols to quinones by oxygen catalyzed by a mixture of cobalt and manganese salts of *p-*aminobenzoic acid supported on silica gel, *13th Iranian Chemistry and Chemical Engineering Congress*, Tehran, Iran, 16-18 Feb. **1999,** *Abstract #* ***OC 157***.
54. **Beni,Y.;**Hashemi M. M., Cobalt and Manganese salts of *p-*aminobenzoic acid supported on silica gel as a versatile catalyst for aromatization of Hantzsch 1,4-dihydropyridines to pyridines by molecular oxygen, *6th Iranian Seminar of Organic Chemistry,* Tabriz, Iran, 19-21 Aug. **1997,** *Abstract #* ***OC 122***.

**Instrumental and analytical expertise**

* **NMR spectrometry**, Acquisition and analysis of 1D (**1H, DEPT, 13C, 33S, 113Cd and 31P NMR**) and 2D (**COSY, HMQC, NOESY, HMBC, TOCSY**) specta**,** Bruker NMR spectrometer (400 MHz), using Topspin (Bruker), and MestRenova processing software for 1 and 2D NMR spectra.
* **ICP-Mass X-series,** Thermo Electron Corporation.
* **Dynamic light scattering (DLS) Zetasizer,** Malvern Instruments.
* **Microcalorimetry,** TA Instruments.
* **ESI-MS**, High-resolution PE Biosystems Mariner API time-of-flight electrospray MS.
* **MALDI-MS**, Ciphergen SELDI-TOF protein chip workstation with proteinchip software.
* **Triple peptide synthesizer**, Protein Technologies PS3 automated peptide synthesizer.
* **Multiple peptide synthesizer**, Advanced ChemTech, MBS 396.
* **CEM Microwave Accelerated Reaction System (MARS),** with organic reaction system.
* **HPLC (analytic and prep) and method development,** preparative Shimadzu LC-8A liquid chromatograph and **semi prep.** Hitachi model D-7000.
* **CombiFlash Rf200 Chromatography System,** Teledyne ISCO Flash Chromatography system, normal and reverse phase.
* **FT-IR spectrometry,** Thermo-Nicolet 550 FT-IR coupled with Nic-Plan microscope.
* **FT-IR spectrometry,** PerkinElmer Spectrum 100 FT-IR with ATR sampling accessories.
* **UV-VIS,** Beckman Coulter DU 800UV/Visible Spectrophotometer W/Peltier Temperature Controller.
* **CD,** Jasco 810 spectropolarimeter with Jasco spectra manager.
* **Instrumental automatic flash chromatography,** Varian Chroma Zone SI.
* **FPLC purification of proteins and peptides,** ÄKTA FPLC with UNICORN™ Manager.
* **Cell viability analysis,** Beckman Coulter Vi-CELL series.
* **Luminescence Spectrometry,** Perkin Elmer LS 55 Luminescence spectrometer.
* **Automated Precise protein sequencer**, Model 491, Applied Biosystems.
* **Typhoon, universal gel, blot and microarray imager with blue excitation source**, Model 9410.

 **Attended workshops and training programs**

* **Thermo Spectroscopic Seminar**, Thermo, Nashville Airport Marriott, Nashville, TN, May, **2013**
* **Material Characterization Workshop**, PerkinElmer, Hilton Garden Inn, Nashville, TN, April, **2013**.
* **Research Initiation Award (RIA) Proposal Development Workshop,** BWI Airport, Baltimore, MD, April 19-20, **2013**.
* **Major Research Instrumentation (MRI) Grant Workshop,** BWI Airport, Baltimore, MD, November 2-3, **2012**.
* **CEM Analytical Workshop**, CEM Corporation, Marriott Courtyard, Montgomery, AL, November **2010**.
* **Dynamic light scattering (DLS) Zetasizer,** Malvern Instruments, College of Engineering, URI, Kingston, RI, June **2010.**
* **Rigaku X-ray diffraction**, 2nd Annual Yale-Rigaku Symposium on X-ray Diffraction, Yale Univ., New Haven, CT, June **2010.**
* **TA Instruments' Microcalorimetry,** TA Instruments – Waters LLC, Milford, MA, May **2010**.
* **QSTAR® Elite Hybrid LC/MS/MS System for Small Molecules,** Applied Biosystem, RI-INBRE core facility, URI, Kingston, RI, June **2009**.
* **Two Dimensional Electrophoresis,** GE Healthcare, RI-INBRE core facility, URI, Kingston, RI, July **2007**.
* **Invitrogen Real-time PCR,** RI-INBRE core facility, URI, Kingston, RI, January **2007** and April **2005**.
* **Odyssey infrared imaging system,** LI-COR Biosciences, RI-INBRE core facility, URI, Kingston, RI, November **2006**.
* **Flow cytometry,** BD Biosciences, RI-INBRE core facility, URI, Kingston, RI, July **2006**.
* **SELDI-TOF** **workshop on protein chip arrays & their applications,** RI-INBRE core facility, URI, Kingston, RI, June **2005**.
* **ICP-Mass X-Seriestraining course workshop,** Thermo Electron Corporation, RI-INBRE core facility,URI, Kingston, RI, December **2004**&February**2005**.
* **Advanced NMR techniques workshop including Bruker Topspin NMR spectraprocessing program,** Bruker Biospin, Providence, RI, February. **2005**.
* **Advanced medicinal chemistry course;** URI, Kingston, RI, fall**2005**.
* **Prep HPLC (Shimadzu LC-8A),** professional training, URI, Kingston, RI, June **2004**.
* **Advanced Chemtech multiple peptide synthesizer (ACT 396),** professional training, URI, Kingston, RI, July **2004**.
* **Prudent practices and laboratory waste management training**, URI, Kingston, RI, June **2004**.
* **HPLC and EI-Mass spectroscopy workshop,** Chemistry Department, Shahid Beheshti University, Tehran, Iran, September. **2003**.
* **Peptide chemistry and technology special course, ORPEGEN® Pharma, Heidelberg, Germany,Sep. - Dec. 2003 on**: (1)Production development and pharmaceutical manufacturing of peptide drug substances, API. (2) Legal implications of Good Manufacturing Practice, GMP, in pharmaceutical industry.