



Hazem Ahmed Ghabbour

Enzyme-ligand interactions, protein X-ray crystallography, Rational drug-design

Scopus Author ID:	54966825400
Scopus <i>h</i> index:	9 (Nov. 2016)
Scopus publications	202 (Nov. 2016)
IUCr ID:	IUCr17045
Researcher ID:	B-9334-2012

RESEARCH EXPERIENCE AND INTERESTS

Medicinal Chemistry	I am experienced over than 15 years in designing and developing synthetic routes to different small organic molecules and heterocyclic compounds, also I have good experience in microwave assisted reactions. Experience in the use of modern chromatographic and spectroscopic techniques (ability to operate and interpret spectra from NMR, FTIR, HPLC, UPLC and MS instrumentation) Mass fragmentations using Ion trap, MALDI and DART instruments.
X-ray Crystallography	Structural and biochemical studies of enzymes; Cloning, expressing and purifying of the MERS-CoV papain-like protease (PL ^{Pro}) enzyme with different inhibitors and we submit a patent under title of “ Benzimidazole sulphides as papain-like protease (PL ^{Pro}) inhibitors in Middle East Respiratory Syndrome Coronavirus (MERS-CoV)” Crystal structures of inhibitor complexes of various proteins I have a great experience more than 6 years in collecting solving data for small molecules and complexes using SMART APEX II and D8 venture instruments even with disorders or twins. I attended training in Friedrich-Alexander Universität Erlangen-Nürnberg Germany in 2010 and also in 2014 and in Florida, US in 2016. I am member of the World Directory of Crystallographers of the IUCr (http://www.iucr.org/) by solving and make deposition to more than 450 new crystal structures.
Molecular Biology	I am experienced in standard techniques including (I am working as part-

	time researcher in King Khalid University Hospital for four years): DNA extraction, primer selection, PCR, biology gel electrophoresis and DNA sequencing. I have very good knowledge on biology and microbiology.
Computing	I have a good level of computer literacy. I am competent in molecular modeling programs Molegro, MOE and hyperchem as well as basic chemistry programs ChemOffice and MarvinSketch and many crystallographic programs including APEX2, SMART, SAINT, SADABS, XPREP, SHELXTL, XP, PLATON and pubcif. Also, I have good experience in GAUSSIAN 09 program in DFT and other theories.
Communication	I have excellent communication skills, and I enjoy public speaking. I represented many scientific presentations to my peers as well as end-users and the general public. I have a high level of written communication skills including the ability to write clear, concise reports and proofreading of scientific articles. I have worked on team projects at University.

PERSONAL DATA

Date of Birth	: 1980
Nationality	: Egyptian
Marital Status	: Married, three children
Language	: (Bilingual) Arabic/English
e-mail	: ghabbourh@yahoo.com
Webpages	: 1- http://scholar.google.com/citations?user=DGg6-BsAAAAJ 2- https://www.researchgate.net/profile/Hazem_Ghabbour/activities/?ev=prf_act_pl

ADDRESS

Home	Department of medicinal chemistry, College of pharmacy, Mansoura University, P.O. Box 35516, Mansoura, Egypt, +2050 221 1190 (Home), +2050 224 6253 (Office), +201000 360 380 (Mobile).E-mail address: hghabbour@mans.edu.eg
Current	Department of Pharmaceutical chemistry, College of pharmacy, King Saud University, P.O. Box 2457, Riyadh 11461, Kingdom of Saudi Arabia, +966 56935 2985 (Mobile). E-mail address: haghabbour@ksu.edu.sa

QUALIFICATIONS

1. Ph.D. Pharmaceutical chemistry department, college of **2015**

pharmacy, King Saud University. *Dissertation: Synthesis and Biological Evaluation of Some New thiazole derivatives as CNS Active Agents.*

2. **M.Sc.** Medicinal Chemistry department, college of pharmacy, University of Mansoura, Mansoura, Egypt. **2008**
Dissertation: "Synthesis and biological activity of new oxime ether derivatives as β -adrenergic blockers".
3. **B.Sc. (Pharmaceutical Sciences)** Faculty of Pharmacy, University of Mansoura, Mansoura, Egypt. Very Good, High Honor (6th). **2002**

TEACHING EXPERIENCE

- 1-Teaching the Medicinal Chemistry summer course to KSU undergraduate Pharmacy students. **2010-2014**
- 2- Teaching the Molecular modeling course to Mansoura postgraduate pharmacy students. **2008-2009**
- 3- Teaching the practical courses of medicinal chemistry to Mansoura pharmacy undergraduate students. **2003-2009**
- 4- Teaching the summer course of Biochemistry to MIU pharmacy students **2008**

POSITIONS HELD

- 1- **Assistant professor** and X-Ray lab manager in department of pharmaceutical Chemistry, college of Pharmacy, King Saud University, KSA. **2015 till now**
- 2- **Assistant lecturer** in department of Medicinal Chemistry, Faculty of Pharmacy, Mansoura University, Egypt. Help in teaching postgraduate courses. **2008-2009**
- 3- **Demonstrator** in department of Medicinal Chemistry, Faculty of Pharmacy, Mansoura University, Egypt. Participate in teaching and supervision on practical labs for undergraduate student. **2003-2008**

PRIZES, HONOURS & AWARDS:

- 1- King Saud university award for scientific excellence. Branch (iii): Research Productivity Prize (2016) <http://dsrs.ksu.edu.sa/en/node/495>
- 2- King Saud university award for scientific excellence. Branch (vii): Student Research Excellence Prize (2014) <http://dsrs.ksu.edu.sa/en/node/495>
- 3- Highest number of publications in King Saud University and Mansoura University in 2015, 2016.
- 4- Research groups Foundation Grants with number: RG-1436-038 (Three times) <http://dsrs.ksu.edu.sa/ar/researchgroups>
- 5- KACST Foundation grant for PhD students with number T.D.-0026-12
- 6- PhD scholarship in King Saud University.

PATENTS

- 1- Benzimidazole sulphides as papain-like protease (PL^{pro}) inhibitors in Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- 2- A method for the synthesis of novel *N*-arylidene piperidones derived dispiropyrrolidines and their application as apoptosis inducers

PUBLICATIONS

(Example)

1. **Hazem A. Ghabbour***, Adnan A. Kadi, Kamal E. H. ElTahir, Rihab F. Angawi, Hussein I. El-Subbagh. (2015) Synthesis, Biological Evaluation and Molecular Docking Studies of Thiazole-based Pyrrolidinones and Isoindolinediones as Anticonvulsant Agents. *Medicinal Chemistry Research*. 24: 3194-3211
2. **Hazem A Ghabbour***, Eman R El-Bendary, Mahmoud B El-Ashmawy, Mohamed M El-Kerdawy. (2014) Synthesis, Docking Study and β -Adrenoceptor Activity of Some New Oxime Ether Derivatives. *Molecules* 19 (3), 3417-3435.
3. **Hazem A. Ghabbour***, Maha Qabeel, Wagdy Eldehna, Abdullah Al-Dhfyhan and Hatem A. Abdel-Aziz. (2014) Design, synthesis and molecular docking of 1-(1-(4-chlorophenyl)-2-(phenylsulfonyl)ethylidene)-2-phenylhydrazine as potent non-azole anti-Candidal agent. *Journal of*

- Chemistry*, 154357, 1-8
4. **Hazem A Ghabbour*** and Maha M Qabeel (2016) Synthesis, Crystal Structure, Density Function Theory, Molecular Docking and Antimicrobial Studies of 2-(3-(4-phenylpiperazin-1-yl) propyl) isoindoline-1,3-dione *Tropical Journal of Pharmaceutical Research* 15 (2): 385-392
 5. Mohammad Shahidul Islam, Assem Barakat, Abdullah M. Al-Majid, **Hazem A. Ghabbour** A. F. M. Motiur Rahman, Kulsoom Javaid , Rehan Imad , Sammer Yousuf, M. Iqbal Choudhary (2016) A concise synthesis and evaluation of new malonamide derivatives as potential α -glucosidase inhibitors *Bioorganic & Medicinal Chemistry* In Press
 6. Mahmoud Fahmi Elsebai · **Hazem A Ghabbour** · Mohamed Mehiri (2016) Unusual Nitrogenous Phenalenone Derivatives from the Marine-Derived Fungus *Coniothyrium cereal* *Molecules* 21, 178
 7. Wagdy M. Eldehna, Sahar M. Abou-Seri, Ahmed M. El Kerdawy, Rezk R. Ayyad, Abdallah M. Hamdy, **Hazem A. Ghabbour**, Mamdouh M. Ali, Dalal A. Abou El Ella (2016) Increasing the Binding Affinity of VEGFR-2 Inhibitors by Extending their Hydrophobic Interaction with the Active Site: Design, Synthesis and Biological Evaluation of 1-Substituted-4-(4-methoxybenzyl)phthalazine Derivatives *European Journal of Medicinal Chemistry* 113, 50–62
 8. Wagdy M. Eldehna, Mohamed Fares, Mariangela Ceruso, **Hazem A. Ghabbour**, Sahar M. Abou-Seri, Hatem A. Abdel-Aziz, Dalal A. Abou El Ella, Claudiu T. Supuran (2016) Amido/ureidosubstituted benzenesulfonamides-isatin conjugates as low nanomolar/subnanomolar inhibitors of the tumor-associated carbonic anhydrase isoform XII *European Journal of Medicinal Chemistry* 110, 3 2016, 259–266
 9. Rashad Al-Salahi, Hatem A. Abuelizz, **Hazem A. Ghabbour**, Rabab El-Dib and Mohamed Marzouk (2016) Molecular docking study and antiviral evaluation of 2-thioxo-benzo[g]quinazolin-4(3H)-one derivatives *Chemistry Central Journal* 10:21
 10. Al-Massarani SM, El-Gamal AA, Al-Said MS, Abdel-Kader MS, Ashour AE, Kumar A, Abdel-Mageed WM, Al-Rehaily AJ, **Ghabbour HA**, Fun

- HK. (2016) Studies on the red sea sponge Haliclona sp. for its chemical and cytotoxic properties. *Pharmacognosy Magazine*. 12(46):114.
11. Ayman El-Faham, Saied M. Soliman, Sameh M. Osman, , **Hazem A. Ghabbour**, Mohammed R.H. Siddiqui, Hoong-Kun Fun, Fernando Albericio (2016) One pot synthesis, molecular structure and spectroscopic studies (X-ray, IR, NMR, UV–Vis) of novel 2-(4,6-dimethoxy-1,3,5-triazin-2-yl) amino acid ester derivatives *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 159 (2016) 184–198
 12. Alaa A.-M. Abdel-Aziz, **Hazem A. Ghabbour**, Adel S. El-Azab, Nasr Y. Khalil, Hoong-Kun Fun, and Magda A. El-Sherbeny (2016) Crystal, molecular structure, and conformational preferences of 3-(2-(4-morpholinophenyl)-2-oxoethyl)-5,5-diphenylimidazolidine-2,4-dione. *MOL. CRYST. LIQ. CRYST.* 1-10
 13. Hatem A Abdel-Aziz · **Hazem A Ghabbour** · Wagdy M Eldehna · Sara T A Al-Rashood · Khalid A Al-Rashood · Hoong-Kun Fun · Mays Al-Tahhan · Abdullah Al-Dhfyhan (2015) 2-((Benzimidazol-2-yl)thio)-1-arylethan-1-ones: Synthesis, crystal study and cancer stem cells CD133 targeting potential. *European Journal of Medicinal Chemistry*. 104:1-10.
 14. Assem Barakat **Hazem A. Ghabbour**, Abdullah Mohammed Al-Majid, Saied M. Soliman, M. Ali, Yahia Nasser Mabkhot, Mohammed Rafi Shaik and Hoong-Kun Fun (2015) Synthesis, Spectroscopic Investigations (X-ray, NMR and TD-DFT), Antimicrobial Activity and Molecular Docking of 2,6-Bis(hydroxy(phenyl)methyl)cyclohexanone. *Molecules* 20, 13240-13263
 15. Mahmoud F. Elsebai · **Hazem A. Ghabbour** (2015) Isocoumarin Derivatives from the Marine-Derived Fungus *Phoma* sp. 135. *Tetrahedron Letters* 12/2015
 16. El Sayed H. El Ashry, Yeldey El Kilany, Nariman M. Nahas, Assem Barakat, Nadia Al-Qurashi, **Hazem A. Ghabbour** and Hoong-Kun Fun (2016) Synthesis and Crystal Structures of Benzimidazole-2-thione Derivatives by Alkylation Reactions *Molecules* 21(1), 12
 17. Assem Barakat, Mohammad Shahidul Islam, Abdullah M. Al-Majid, Saied M. Soliman, Yahia N. Mabkhot, Zeid Abdullah Al-Othman, **Hazem A.**

- Ghabbour**, Hoong-Kun Fun (2015) Synthesis of novel 5-monoalkylbarbiturate derivatives: new access to 1,2-oxazepines. *Tetrahedron Letters* 56, 6984–6987
18. Abdulrahman I. Almansour · Natarajan Arumugam · Raju Suresh Kumar · J. Carlos Menéndez · **Hazem A. Ghabbour** · Hoong-Kun Fun · Raju Ranjith Kumar (2015) Straightforward synthesis of pyrrolo[3,4-b]quinolines through intramolecular Povarov reactions. *Tetrahedron Letters* Volume 56, Issue 49, 6900-6903
19. Assem Barakat, Hany J. Al-Najjar, Abdullah Mohammed Al-Majid, Saied M. Soliman, Yahia Nasser Mabkhot, Mohammed Rafi Shaik, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2015) Synthesis, NMR, FT-IR, X-ray structural characterization, DFT analysis and isomerism aspects of 5-(2,6-dichlorobenzylidene)pyrimidine-2,4,6(1*H*,3*H*,5*H*)-trione. *Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy*. 147, 107-116
20. Assem Barakat, Hany J. Al-Najjar, Abdullah Mohammed Al-Majid, Islam, M., Ali, Saied M. Soliman, Mohammed Rafi Shaik, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2015) Molecular structure investigation and tautomerism aspects of (E)-3-benzylideneindolin-2-one. *Journal of Chemical Sciences*:1-10.
21. Assem Barakat, Mohammad Shahidul Islam, Abdullah Mohammed Al-Majid, **Hazem A. Ghabbour**, Hoong-Kun Fun, Kulsoom Javed, Rehan Imad, Sammer Yousuf, M. Iqbal Choudhary, Abdul Wadood (2015) Synthesis, In vitro Biological Activities and In Silico Study of Dihydropyrimidines Derivatives. *Bioorganic & Medicinal Chemistry* 23, 20, 6740–6748.
22. Assem Barakat, Abdullah Mohammed Al-Majid, Saied M Soliman, Yahia Nasser Mabkhot, M Ali, **Hazem A Ghabbour**, Hoong-Kun Fun and Abdul Wadood (2015) Structural and spectral investigations of the recently synthesized chalcone (E)-3-mesityl-1-(naphthalen-2-yl) prop-2-en-1-one, a potential chemotherapeutic agent. *Chemistry Central Journal* 9:35.
23. Assem Barakata, Saied M. Soliman, Abdullah Mohammed Al-Majid, Gehad Lotfy, **Hazem A. Ghabbour**, Hoong-Kun Fun, Sammer Yousuf, M. Iqbal

- Choudhary, Abdul Wadood (2015) Synthesis and structure investigation of novel pyrimidine-2,4,6-trione derivatives of highly potential biological activity as anti-diabetic agent. *Journal of Molecular Structure*. 1098, 365–376.
24. Ayman El-Faham, Muhammad Farooq, Sherine N. Khattab, Nael Abutaha, Mohammad A. Wadaan, **Hazem A. Ghabbour** and Hoong-Kun Fun (2015) Synthesis, Characterization, and Anti-Cancer Activity of Some New N'-(2-Oxindolin-3-ylidene)-2-propylpentane hydrazide-hydrazones Derivatives. *Molecules*, 20(8), 14638-14655
25. Natarajan Arumugam, Abdulrahman I. Almansour, Raju Suresh Kumar, J. Carlos Menéndez, Mujeeb A. Sultan, Usama Karama, **Hazem A. Ghabbour** and Hoong-Kun Fun (2015) An Expedient Regio- and Diastereoselective Synthesis of Hybrid Frameworks with Embedded Spiro[9,10]dihydroanthracene [9,3']-pyrrolidine and Spiro[oxindole-3,2'-pyrrolidine] Motifs via an Ionic Liquid-Mediated Multicomponent Reaction *Molecules*, 20(9), 16142-16153
26. Mohammad Shahidul Islam · Assem Barakat · Abdullah Mohammed Al-Majid · Saied M. Soliman · **Hazem A. Ghabbour** · Hoong-Kun Fun (2015) Crystal Structure of 7,11-bis(2,4-dichlorophenyl)-2,4-dimethyl-2,4-diazaspiro[5.5]undecane -1,3,5,9-tetraone and its computational studies. *Journal of Chemical Sciences* 09; DOI:10.1007/s12039-015-0923-x
27. Abdulrahman I. Almansour, Natarajan Arumugam, Raju Suresh Kumar 1, Govindasami Periyasami, **Hazem A. Ghabbour** and Hoong-Kun Fun (2015) A Novel One-Pot Green Synthesis of Dispirooxindolo-pyrrolidines via 1,3-Dipolar Cycloaddition Reactions of Azomethine Ylides. *Molecules*, 20(1), 780-791.
28. Assem Barakat, Hany J. Al-Najjar, Abdullah Mohammed Al-Majid Saied M. Soliman, Yahia Nasser Mabkhot, **Hazem A. Ghabbour**, Hoong-Kun Fun (2015) Synthesis and molecular characterization of 5,50 -((2,4-dichlorophenyl)methylene)bis(1,3-dimethylpyrimidine- 2,4,6(1H,3H,5H)-trione). *Journal of Molecular Structure*, 1084, 207–215.
29. Rashad Al-Salahi, Ibrahim Alswaidan, **Hazem A. Ghabbour**, Essam

- Ezzeldin, ahmoud Elaasser and Mohamed Marzouk. (2015) Docking and Antiherpetic Activity of 2-Aminobenzo[de]-isoquinoline-1,3-diones. **Molecules**, 20, 5099-5111
30. Mohammad Shahidul Islam, Assem Barakat, Abdullah Mohammed Al-Majid, **Hazem A. Ghabbour**, Hoong-Kun Fun (2015) Stereoselective Synthesis of Diazapiro[5.5]undecane Derivatives via Base Promoted [5+1] Double Michael Addition of N,N-Dimethylbarbituric Acid to diaryliedene acetones. **Arabian Journal of Chemistry**, xxxx
31. M. A. Bhat, **H. A. Ghabbour**, C. S. Chidan Kumar, H.-K. Fun (2015) New and Efficient Synthesis of N-(4-Substituted phenyl)-5-(pyridin-4-yl)-1,3,4-oxadiazol-2-amines. **Asian Journal of Chemistry**; 26(24):8483-8487.
32. Yahia Nasser Mabkhot, Salah S. Aladdi, S. S. Al-Showiman, A. M. A. Al-Majid, Assem Barakat, **Hazem A. Ghabbour**, and Mohamed R. Shaaban (2015) Synthesis and Characterization of Novel Thieno-Fused Bicyclic Compounds through New Enaminone Containing Thieno[2,3-b]pyridine Scaffold. **Journal of Chemistry**. Volume 2015, ID 382381, 8 pages
33. Mohamed I. Attia, **Hazem A. Ghabbour**, Maha S. Almutairi, SorayaW. Ghoneim, Hatem A. Abdel-Aziz, and Hoong-Kun Fun. (2013) Synthesis and X-Ray Crystal Structure of (1E)-1-(4-Chlorophenyl)-N-hydroxy-3-(1H-imidazol-1-yl)propan-1-imine. **Journal of Chemistry**, 418601.v2, 1-5.
34. Natarajan Arumugam, Abdulrahman I. Almansour, Raju Suresh Kumar, Subbu, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2013) A 1,3-dipolar cycloaddition–annulation protocol for the expedient region-stereo- and product-selective construction of novel hybrid heterocycles comprising seven rings and seven contiguous stereocentres. **Tetrahedron Letters** 54, 2515–2519.
35. Hatem A. Abdel-Aziz, Pervez Ahmad, Adnan Kadi, Khalid A. Al-Rashood, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2013) Unexpected ring-opening of 3-arylbenzo[b]furans at room temperature: a new route for the construction of phenol-substituted pyrazoles. **Tetrahedron Letters** 54, 3424–3426.
36. Mohamed I. Attia, **Hazem A. Ghabbour**, Aida El-Azzouny, Maha

- Almutairi, Hoong-Kun Fun, and Omar Al-Deeb. (2013) Synthesis and single crystal X-ray structure of new (2E)-2-[3-(1H-imidazol-1-yl)-1-phenylpropylidene]-N-phenylhydrazinecarboxamide. *Journal of Chemistry*, 2013, 515309.v2, 1-4.
37. Yahia Nasser Mabkhot, Nahed Ahmed Kaal, Seham Alterary, Salem S. Al-Showiman, Assem Barakat, **Hazem A Ghabbour**, Wolfgang Frey. (2015) Synthesis, In-vitro antibacterial, antifungal, and Molecular Modeling of Potent Anti-Microbial Agents from a Combined Pyrazole and Thiophene Pharmacophore. *Molecules* 20, 8712-8729.
38. Mohammad Shahidul Islam, Abdullah Mohammed Al-Majid, Assem Barakat, Saied M. Soliman, **Hazem A. Ghabbour**, Ching Kheng Quah and Hoong-Kun Fun (2015) Synthesis, Molecular Structure and Spectroscopic Investigations of Novel Fluorinated Spiro Heterocycles. *Molecules*, 20(5), 8223-8241.
39. Mohamed I. Attia, Mohamed N. Aboul-Enein , Aida A. El-Azzouny , Yousef A. Maklad , and **Hazem A. Ghabbour**. (2014) Anticonvulsant potential of certain new (2E)-2-[1-aryl-3-(1H-imidazol-1-yl)-propylidene]-N-(aryl/H)hydrazinecarboxamides. *The Scientific World Journal*. 2014, 1-9.
40. Ayman El-Faham, Wael N. Hozzein, Mohammad A. M. Wadaan, Sherine N. Khattab, **Hazem A. Ghabbour**, Hoong-Kun Fun, and Mohammed Rafiq Siddiqui (2015) Microwave Synthesis, Characterization, and Antimicrobial Activity of Some Novel Isatin Derivatives. *Journal of Chemistry*. Volume 2015, Article ID 716987, 8 pages
41. Assem Barakat · Abdullah Mohammed Al-Majid · Saied M Soliman · Gehad Lotfy · **Hazem A. Ghabbour** · Hoong-Kun Fun · Abdul Wadood · Joseph C Sloop · Ismail Warad ·(2015) New Diethyl Ammonium Salt of Thiobarbituric Acid Derivative: Synthesis, Molecular Structure Investigations and Docking Studies. *Molecules* 20(11):20642–20658.
42. Mohamed I Attia · **Hazem A Ghabbour** · Maha S Almutairi · Soraya W Ghoneim · Hoong-Kun Fun (2015) Single-Crystal X-ray Structure of Anti-Candida Agent, (E)-3-(1H-Imidazol-1-yl)-1-Phenylpropan-1-one O-3-

- Chlorobenzoyl Oxime. *Tropical Journal of Pharmaceutical Research* 14(10):1865.
43. Maha S Almutairi · **Hazem A Ghabbour** · Soraya W Ghoneim · Hoong-Kun Fun · Mohamed I Attia (2015) X-ray Molecular Structure of (([(1E)-3-(1H-Imidazol-1-yl)-1-phenylpropylidene]amino} oxy)(3,4,5-trimethoxyphenyl)-methanone: A Potential Anti-Candida Agent. *Tropical Journal of Pharmaceutical Research* 12/2015; 14(11):2041
44. Abdulrahman Alsultan, Aamer Aleem, **Hazem Ghabbour**, Farjah H. AlGahtani, Ali Al-Shehri, Mohamed Elfaki Osman, Kadajah Kurban, Mohammed S. Alsultan, Hasan Bahakim, and AbdelKareem M. Al-Momen. (2012) Sickle Cell Disease Subphenotypes in Patients From Southwestern Province of Saudi Arabia. *J Pediatr Hematol Oncol.* 34 (2),79-84.
45. Abdulrahman Alsultan, Duyen A. Ngo, John J. Farrell, Idowu Akinsheye, Nadia Solovieff, **Hazem A. Ghabbour**, Amein Al-Ali, Ahmed Alsuliman, Muneer Al-Baghshi, Mohammed Alabdulaali, Clinton T. Baldwin, Lindsay A. Farrer, Hong Luo, Efthymia Melista, Surinder Safaya, Maxwell Nwaru, , and Martin H. Steinberg. (2012) A Functional Promoter Polymorphism of the δ -Globin Gene is a Specific Marker of the Arab-Indian Haplotype. *American Journal of Hematology* 824-826.
46. Abdulrahman Alsultan, Mohammed K. Alabdulaali, Paula J. Griffin, Ahmed M. AlSuliman, **Hazem A. Ghabbour**, Paola Sebastiani, Waleed H. Albuali, Amein K. Al-Ali, David H. K. Chui, Martin H. Steinberg. (2014) Sickle Cell Disease in Saudi Arabia: The Phenotype in Adults with the Arab-Indian Haplotype is not benign. *British Journal of Haematology.* 164, 597–604
47. Tilal Elsaman, Mohamed Fares, Hatem A. Abdel-Aziz, Mohamed Attia, **Hazem Ghabbour** and Kamal M. Dawood. A Facile synthesis of pyrimido[1,2-b]pyrido[3,2-d]pyrazoles and 1,2,4-triazino[4,3-b]pyrido[3,2-d]pyrazoles incorporating thiophene moiety *The Scientific World Journal* (2013)
48. Abdullah M. Al-Majid , Assem Barakat, Hany J. AL-Najjar, Yahia N. Mabkhot, **Hazem A. Ghabbour** and Hoong-Kun Fun. (2013) Tandem Aldol-Michael Reactions in Aqueous Diethylamine Medium: A Greener and

- Efficient Approach to Bis-Pyrimidine Derivatives. *International Journal of Molecular Sciences*. 14, 23762-23773.
49. Assem Barakat, Abdullah M. Al-Majid, Hany J. AL-Najjar, Yahia N. Mabkhot, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2014) An efficient and green procedure for synthesis of rhodanine derivatives by aldol-thia-Michael protocol using aqueous diethylamine medium. *RSC Adv.*, 4, 4909–4916.
50. Hatem A. Abdel-Aziz, **Hazem A. Ghabbour**, Wagdy M. Eldehna, Maha M. Qabeel, and Hoong-Kun Fun. (2014) Synthesis, Crystal Structure, and Biological Activity of cis/trans Amide Rotomers of (Z)-N'-(2-Oxoindolin-3-ylidene)formohydrazide. *Journal of Chemistry*, 2014, 760434.v3, 1-7.
51. Assem Barakat, Abdullah M. Al-Majid, Hany J. AL-Najjar, Yahia N. Mabkhot, Manuel Weber, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2014) A Greener and Efficient Approach to Michael Addition of Barbituric Acid to Nitroalkene in Aqueous Diethylamine Medium. *Molecules*, 19 (1), 1150-1162.
52. Abdulrahman I. Almansour, Natarajan Arumugam, Raju Suresh Kumar, R. Padmanaban, V.B. Rajamanikandan, **Hazem A. Ghabbour**, Hoong-Kun Fun. (2014) An expedient pseudo four-component synthesis of dispiroindandione fused indeno-N-methylmorpholine, spectroscopic, X-ray diffraction and DFT studies. *Journal of Molecular Structure* 14 (12), 23762-23773.
53. Assem Barakat, Abdullah Mohammed Al-Majid, Abdulaziz Moshabab Al-Ghamdi, Yahia Nasser Mabkhot, Mohammed Rafiq Siddiqui, **Hazem A Ghabbour**, Hoong-Kun Fun. (2014) Tandem Aldol-Michael reactions in aqueous diethylamine medium: a greener and efficient approach to dimedone-barbituric acid derivatives. *Chemistry Central Journal* 8 (1), 9
54. Samir Bondock, Tamer Nasr, Wafaa Zaghary, Suchada Chantrapromma, **Hazem Ghabbour** and Hoong-Kun Fun. (2014) Novel Diastereoselective Synthesis and X-ray Crystallographic Studies of (E)-2-cyano-N-(4-ethoxyphenyl)-3-methylthio-3-(substituted-amino)acrylamides. *Mol. Cryst. Liq. Cryst.*, 597, 1–14.
55. Mohamed I Attia, **Hazem A Ghabbour**, Azza S Zakaria, Hoong-Kun Fun

- (2014) In vitro anti-Candida activity and single crystal X-ray structure of ((1E)-[3-(1H-imidazol-1-yl)-1-phenylpropylidene] amino} oxy)(4-nitrophenyl) methanone. *Bangladesh Journal of Pharmacology*. 9 (1), 43-48
56. Ayman El-Faham , Sherine N. Khattab, **Hazem A. Ghabbour**, Hoong-Kun Fun, Rafiq H. Siddiqui. (2014) Microwave irradiation: Synthesis and characterization of alpha-ketoamide and bis (alpha-ketoamide) derivatives via the ring opening of N-acetylisatin. *Chemistry Central Journal*. 8:27 (1-10)
57. Tarek Aboul-Fadl, Tilal Elsaman, Omar A. A. Aldeeb, **Hazem Ghabbour** C. S. Chidan Kumar and Fun Hoong Kun. (2014) Some new NSAIDs prodrugs: An efficient synthesis, spectral characterization and X-ray crystal structure studies. *Asian Journal of Chemistry*. 26(16), 5249-5254.
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X-ray publications

Example

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72. **Hazem A. Ghabbour (2016)** Crystal structure of 2-phenyl-5,6,7,8-tetrahydro4-H-benzo[4,5]thieno[2,3-d][1,3]oxazin-4-one, C₁₆H₁₃NO₂S *Zeitschrift für Kristallographie-New Crystal Structures in press*

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In manuscript

1. **Hazem A. Ghabbour**, Adnan A. Kadi and Hussein I. El-Subbagh. Cytotoxic Activity and Mass Spectrometric Fragmentation Behavior of some Thiazole Derivatives Employing ESI-Ion trap and EI-High Resolution. (**Manuscript**).
2. **Hazem A. Ghabbour**, Adnan A. Kadi and Hussein I. El-Subbagh. X-ray and DFT study for some aminothiazole derivatives. (**Manuscript**)

ABSTRACT

1. Abdulrahman Alsultan, Duyen A. Ngo, John J. Farrell, **Hazem Ghabbour**, Idowu Akinsheye, Ameen Al-Ali, Ahmed Alsuliman, Muneer Al-Baghshi, Waleed Albuali, Mohammed Alabdulaali, Paola Sebastiani, Clinton T. Baldwin, David H.K. Chui, and Martin H. Steinberg. (2011) Co-Inheritance of Delta Thalassemia Might Contribute to the High Fetal Hemoglobin in Sickle Cell Anemia Patients with the Saudi-Indian Haplotype. **Blood**. 118 (21), 486-487.
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References

Ali A. El-Emam

Professor of Pharmaceutical Chemistry
Department of Medicinal Chemistry
Faculty of Pharmacy, King Saud University
Saudi Arabia.
E-mail: elemam5@hotmail.com
Mobile: +966551779255 AND +20123913990

Ibrahim Mustafa El-Deeb, PhD

Institute for Glycomics
Griffith University, Gold Coast campus, QLD, 4222,
Australia
Work: +61755529351
Home: +61-755638373
mobile: +61416631866
E-mail: i.el-deeb@griffith.edu.au
dribrahimeldeeb@hotmail.com

Hoong-Kun Fun, Ph.D. (Purdue)

Emeritus Professor of Universiti Sains Malaysia
Mobile : +604-653 5115
E-mail: hkfun@usm.my
Webpage : 1. <http://scholar.google.com/citations?user=jm5QaHkAAAAJ&hl=en>
2. <http://faculty.ksu.edu.sa/hkf/pages/default.aspx>

Hussein I. El Subbagh

Professor of Pharmaceutical Chemistry
Department of Medicinal Chemistry
Faculty of Pharmacy, Mansoura University
Egypt.
E-mail: subbagh@yahoo.com
Webpage: <http://scholar.google.com/citations?user=8Vsp-lAAAAJ&hl=en>