# Dr Rosemary Lynch

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I am a synthetic/medicinal chemist with extensive experience in biotech and pharma now expanding my skill set in the areas of molecular biology and synthetic biology, towards diversification of natural products of medicinal interest.

## Employment record

- Research Fellow, School of Chemistry, University of St Andrews, Prof. R. J. M. Goss, Jan 2019 – Present
- PDRA, School of Chemistry, University of St Andrews, Prof. R. J. M. Goss, Oct - Dec 2018
- Demonstrator in Organic Chemistry, School of Chemistry, University of St Andrews, Sept - Oct 2018
- Senior Technologist (Synthetic Chemist), Aqdot Ltd, Cambridge UK, Aug 2014-Jun 2017
  *Aqdot – A Cambridge University spin-out company using novel supramolecular host-guest chemistry to form controlled release microcapsules for laundry, personal care and materials applications.*
- Medicinal Chemist, Cellzome Ltd, Cambridge, UK, Aug 2007 - Jun 2012
  *Cellzome – A drug discovery biotech company specialising kinase inhibitors for inflammatory diseases. Following a successful collaboration Cellzome was acquired by GSK in June 2012.*
- Medicinal Chemist, NCE Discovery (CRO now Domainex), Cambridge, UK, 2005-2007
  *NCE Discovery – A contract medicinal chemistry research company providing services to university researchers and small companies, enabling them to develop their therapeutic technologies and ideas.*
- Medicinal Chemist, Ionix Pharmaceuticals (acquired by Vernalis), Cambridge, UK, 2002-2005
  *Ionix – Biotech company designing molecules to inhibit ion channels for neuropathic pain indications*
- Research Chemist, *Smith & Nephew* (Enabling Technologies), York, UK, 2000-2002

## Education

**PhD, Organic Chemistry,** University of Sheffield, Supervisor Prof. C. A. Hunter FRS, 1997-2001
Designed and synthesised self-assembling porphyrin oligomers as synthetic light harvesting structures
Studied the ligand exchange, self-assembly and host-guest properties of these systems using a variety of characterisation techniques including NMR titrations, Mass Spectroscopy, UV-Vis and fluorescence spectroscopy
Collaborated with Dr Richardson's Nanomaterials Group producing porphyrin thin films for toxic gas detection

**1994-1997 BA Natural Sciences 2.1, Girton College, University of Cambridge**

## Key Skills

- Organic synthetic chemistry (including microwave assisted), medicinal chemistry & SAR, parallel synthesis and purification techniques
- Analytical/purification techniques; NMR, LCMS, HPLC, Biotage systems etc.
- Extensive use of ChemBioFinder to analyse SAR and ADME data
- Analysed MS/MS and LCMS/MS data to determine compound metabolites
- Experience with ChimeraX, DS Visualizer, PyMOL and other 3D visualisation software

## Posters and oral presentations

- Oral presentation; Buchwald Hartwig Diversification of Unprotected Halotryptophans, Halotryptophan Containing Tripeptides and the Natural Product Barettin in Aqueous Conditions:
  - SCI/RSC Conference; Applied Late-stage Functionalisation: Where chemistry meets biology, University of Manchester, February 2020
  - RSC Scottish Regional Organic Division meeting: University of St Andrews, Jan 2020

- Presented Poster; Identification of potent and selective kinase inhibitors using a chemical proteomics approach at 4th Anglo-Swedish Medicinal Chemistry Symposium, Lund, 15-18th Mar 2009
- Seminar; Metalloporphyrin Coordination Complexes, The University of Sheffield, 2000
- Presented poster; Self-assembly of a Photoinduced Electron Transfer Complex, Annual Highlights of Chemistry Research and R&D by Younger Research Chemists 1999
- Presented poster; Self-assembled Porphyrin Arrays as Models for Light-Harvesting Complexes, XXIII International Symposium on Macrocyclic Chemistry 1998

**Teaching Experience**

Laboratory demonstrator, 3rd year organic labs, University of St Andrews, Sept-Oct 2018
Tutor, First year undergraduate organic chemistry, University of St Andrews, Jan-April 2019

**Attended Conferences and Training**

- Introduction to Biology - The Secret of Life (Online course), Sept – Dec 2013
- Protein Kinase 2010: Signalling Success, 20th Oct 2010
- 4th European Cyprotex Workshop, London, 9th Jun 2010
- Supervisor training, 1.5 days course spread over 3 sessions, Us2U 2009
- DMPK for Chemists, University of Liverpool, 11th Jun 2008
- Project management training, Cambridge Strategic Management, 2006
- 13th RSC-SCI Medicinal Chemistry Symposium, Churchill College Cambridge, 4-7 Sep 2005
- Advanced Aromatic Heterocyclic Chemistry course, Scientific Update, Sept 2003
- Graduate School (generic and transferable skills development), EPSRC

**Selected publications & patents**

1. Buchwald Hartwig diversification of unprotected halotryptophans, halotryptophan containing tripeptides and the natural product barettin in aqueous conditions, Renault, Y. J. G.;† **Lynch, R.;**† Marelli, E.;† Sharma, S. V.; Pubill-Ulldemolins, C.; Sharp, J. A.; Cartmell, C.; Cárdenas, P.; Goss, R. J. M.; *Chem. Comm*., **2019**, 55 (91), 13653--13656 †**Joint first author**
2. CZ415 a Highly Selective mTOR Inhibitor Showing in Vivo Efficacy in a Collagen Induced Arthritis Model, Cansfield, A. D.; Ladduwahetty, T.; Sunose, M.; Ellard, K.; **Lynch, R**.; Newton, A. L.; Lewis, A.; Bennett, G.; Zinn, N.; Thomson, D. W.; Rüger, A. J.; Feutrill, J. T.; Rausch, O.; Watt, A. P.; Bergamini, G., *Med. Chem. Lett.*, **2016**, 7 (8), 768–773
3. Small molecule inhibitors of the neuropilin-1 vascular endothelial growth factor A (VEGF-A) interaction, Jarvis, A.; Allerston, C. K.; Jia, H.; Herzog, B.; Garza-Garcia, A.; Winfield, N.; Ellard, K.; Aqil, R.; **Lynch, R**.; Chapman, C.; Hartzoulakis, B.; Nally, J.; Stewart, M.; Cheng, L.; Menon, M.; Tickner, M.; Djordjevic, S.; Driscoll, P. C.; Zachary, I.; Selwood, D. L., *Journal of medicinal chemistry* **2010**, 53, 2215-26.
4. Heterocyclyl pyrimidine analogues as TYK2 inhibitors, Harrison, R. J.; Ramsden, N.; Major, J.; Morel, A.; Convery, L.; Sunose, M.; **Lynch, R.;** Adrego, R.; Jones, A., **2017** US Patent 9,655,897
5. Curing compositions, Cheesman, B.; Coulston, R.; **Lynch, R.;** Rowland, M.; Diec, D., **2016** WO2016185209
6. Heterocyclyl pyrimidine analogues as TYK2 inhibitors, Harrison, R. J.; Ramsden, N.; Major, J.; Morel, A.; Convery, L.; Sunose, M.; **Lynch, R.;** Adrego, R.; Jones, A., **2013** WO2013174895
7. Pyrimidine derivatives as mTOR inhibitors, **Lynch, R.;** Cansfield, A.; Hardy, D.; Scanlon, J. E.; Adrego, R., **2012** WO2012136622
8. Morpholino substituted bicyclic pyrimidine urea or Carbamate derivatives as mTOR inhibitors, **Lynch, R.;** Cansfield, A.; Feutrill, J. T.; Adrego, R.; Ellard, K.; Ladduwahetty, T., **2013** WO2013050508
9. Pyridine compounds and aza analogues thereof as TYK2 inhibitors, Ellard, K.; Major, J.; Jones, A.; **Lynch, R.;** Ramsden, N., **2012** WO2012062704
10. Morpholino substituted urea derivatives as mTOR inhibitors, **Lynch, R.;** Cansfield, A.; Niblock, H.; Hardy, D.; Taylor, J., **2011** WO2011107585