Job Description

Job title	Research Associate
Department/School	Chemistry
Job family	Education and Research
Grade	7
Reporting to	Dr Alexander J. Cresswell (PI)
Responsible for	Day-to-day co-supervision of doctoral or undergraduate students
Location	University of Bath premises

Job purpose

The research programme will develop new methods for the nucleophilic borylation of organic compounds using alkaline earth boryls. This work builds upon the recent discovery from Hill *et al.* (*Nature Commun.* **2017**, *8*, 15022) that potent and isolable boron nucleophiles are easily generated by heterolytic activation of the B-B bonds of commercially available diboranes e.g. B_2pin_2 within the coordination sphere of readily accessible organomagnesium complexes. The post holder will form part of an inorganic/organic/computational team focused on devising, understanding and applying highly reactive but practicable boryl nucleophiles to the stoichiometric and catalytic synthesis of unprecedented organic and inorganic species. This position will focus on the application of boryl (pinB) anion nucleophiles in synthetic organic chemistry, including for the nucleophilic C–H borylation of arenes.

Main duties and responsibilities	
1	Conduct individual research project. Contribute to the design and execution of the project e.g. timetabling and meeting project milestones; participating in regular discussions with collaborative partners. Generate, collect and analyse existing data related to the project using qualitative and/or quantitative techniques.
2	Writing up results of research and contributing to the publication of results in high-quality peer-reviewed academic literature.
3	Disseminating results of research project as appropriate to the discipline through activities such as • overseas research visits • conference presentations • public engagement activities

4	Participate in departmental/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders.
5	Assist with the supervision of postgraduate students and undergraduate project students and the assessment of student knowledge.
6	Continually update knowledge and understanding in synthetic chemistry and catalysis to inform research activity.
7	Identify sources of funding and provide assistance with preparing bids to funding bodies. Develop ability to secure own funding e.g. travel grants.
8	Contribute to the development of research objectives and proposals for own or joint research projects, with assistance of a mentor, if required.
9	Disseminate knowledge of research advances to inform departmental teaching.
	You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance.

Person Specification

Criteria	Essential	Desirable
Qualifications		
A PhD degree in Organic Chemistry	√	
Experience/Knowledge		
Postdoctoral experience		√
Knowledge of organoboron or main group organometallic chemistry		√
Experience in synthetic organic chemistry, including use of Schlenk techniques for air-sensitive chemistry	√	
Demonstrated awareness of latest developments in the field of research and in research design	√	
Demonstrated potential to publish in high quality, peer reviewed journals	√	
Skills		
Ability to prepare research proposals, to conduct individual research work and to disseminate results		√
Ability to organise and prioritise own workload to meet required deadlines	√	
Ability to write research reports and to effectively disseminate outcomes	√	
Excellent oral, interpersonal and written communication skills	√	
Proficiency in NMR spectroscopic techniques, processing software (e.g. Mestrenova) and the ability to interpret 1D and 2D NMR spectra independently	√	
Proficiency in IT skills (as appropriate to discipline)	√	
Attributes		
Commitment to working within professional and ethical codes of conduct	√	

Innovation and developing creative solutions	√	
Commitment to excellence in research	√	
Enthusiasm and self-motivation	√	
Tenacity – working to achieve own and team objectives and to overcome obstacles	√	
Ability to be an effective team worker	√	
Commitment to safe working practices	√	