



RSC | Advancing the
Chemical Sciences

Organic Division: Heterocyclic and Synthesis Group

Secretary and Treasurer: Dr Karl Hemming, Division of Chemistry, University of Huddersfield

The 20th Lakeland Symposium Grasmere, 5-9th May, 2011.



GRASMERE 20



The programme will include the following plenary speakers:

Professor Simeon Arseniyadis (Gif-sur-Yvette)
Professor Tony Barrett (Imperial College) [Charles Rees Award and Lecture]
Professor P. Andrew Evans (University of Liverpool)
Dr Michael Greaney (University of Edinburgh)
Professor Mike Kerr (Western Ontario)
Professor Ben List (Max-Planck-Institute Mülheim)
Professor Steve Martin (University of Texas at Austin)
Professor Erik J. Sorensen (Princeton)
Professor M. Christina White (Illinois, Urbana Champaign).

There will be a strong line-up of other academic and industrial speakers from amongst the registered delegates, plus a series of short-talks from post-graduates. A poster session with cash prizes (kindly sponsored by Peakdale Molecular) will allow many others to contribute to this meeting.

Registration is £160 for Group members, £200 for non-group members who are RSC members, £250 for non-RSC members and £80 for students and retired members. The Wordsworth and Red Lion hotels have been reserved for conference delegates, and a £100 deposit is required from those who wish to stay in these hotels. Full details of accommodation costs in these hotels are provided on page 3 of this circular. The package includes full board Thurs pm – Mon am (excluding banquet) with costs dependent upon the hotel, room-type and willingness (or not) to share. We are also happy to accept delegates on a “registration only basis” should you wish to arrange your own accommodation – Grasmere has lots of accommodation options to suit all budgets – see page 4. The scientific sessions will be held in Grasmere Village Hall in the evenings (starting on Thursday 5th May) and mornings (including Monday 9th May) with the afternoons free to explore the surrounding hills and fells, discuss chemistry, catch up with work, or network. Accompanying persons are especially welcome at this meeting – the Lake District is an excellent centre for visitors. There will be an accompanying persons’ programme. The total number of participants will be limited to around 140 in order to maintain the informal atmosphere.

The Grasmere Meeting is extremely popular and quick registration is advised – a registration form is attached overleaf

Registration Form for the 20th Lakeland Symposium, Grasmere, 5-9th May, 2011

The registration fee for full participants is £160 for members of the Heterocyclic and Synthesis Group and for post-doctoral fellows, £200 for non-members of the Group, £250 for non-members of the RSC, and £80 for students, retired or unemployed RSC members. There is no registration fee for accompanying persons. Accommodation details are on pages 3/4 below and the packages cover full board (excluding the banquet) from the Thursday evening (dinner) to the Monday (lunch). A deposit of £100 per person for the accommodation costs is required with the registration fee. The balance for the board and accommodation costs will be payable directly to your Hotel on departure. We are happy for people to arrange their own, alternative, accommodation. **The deadline for all registrations is March 25th 2011.**

Potential *oral* contributors should submit their registration form and abstract by March 18th 2011.
A limited number of short oral presentations will be reserved for final year PhD students.

Potential *poster* contributors should submit their abstracts and registration form by March 25th 2011.

All abstracts should be submitted to k.hemming@hud.ac.uk – page 7 shows a sample abstract.

A limited number of PhD student bursaries for poster presenters will be available at a TOTAL cost of £330 inclusive of accommodation and registration (£80 for registration, £250 for accommodation). Please indicate on the attached form if you are a student and wish to be considered for a poster bursary. Successful bursars will be chosen on the basis of the poster abstract submitted. The cost for students otherwise is £80 for the registration plus accommodation costs.

Name (and title):

Name of accompanying person (if applicable):

Affiliation (e.g. name of company, university etc):

Address:

E-mail:

I wish to contribute *a talk* *a poster* **[please ring or underline]**

Registration Fees and Payments: I enclose my remittance as indicated:

RSC Heterocyclic and Synthesis Group Member/Post-docs	£160
Non-member of RSC Heterocyclic and Synthesis Group	£200
Non-member of RSC	£250
PhD Students, Retired or Unemployed Members	£80
Accommodation deposit (if using conference hotels) [see page 4 also]	£100

TOTAL

Please return this form and a cheque for the Registration Fee and Accommodation Deposit to: **Dr Karl Hemming, Division of Chemistry, University of Huddersfield, Huddersfield, HD1 3DH, UK.** Cheques should be made payable to 'Heterocyclic Group'. If you require an invoice, a receipt or details about BACS payment please contact k.hemming@hud.ac.uk

Accommodation:

The conference accommodation will be at the Red Lion and Wordsworth Hotels in Grasmere. Please note that all reservations are to be made *via* the form on page 4 of this circular and **not** *via* the hotels. Regulars will note the very modest price increases from 2009 costs (£5 - £10 per day) and we are grateful to the hotels for their cooperation in this respect. Note that the Wordsworth has gone through a programme of modernisation. Please note that there are numerous other hotels, guest-houses, pubs-with-rooms, B&Bs, youth-hostel rooms, self-catering cottages etc in Grasmere (see, for example, <http://www.visitcumbria.com/list.php?type=stay&town=Grasmere>). These cater for all budgets, and we are more than happy to accept delegates on a “registration only basis” should you wish to avail yourself of the chance to arrange your own accommodation – many have done so in the past. Please contact me on k.hemming@hud.ac.uk if you have any queries regarding accommodation.

Red Lion: <http://www.grasmereredlionhotel.co.uk>
Wordsworth: <http://www.thewordsworthhotel.co.uk>

Prices (which include *full board* [excluding the banquet] from the Thursday evening [dinner] to the Monday [lunch] inclusive of VAT) will be as follows:

Wordsworth	singly occupied double/twin room	£640
	twin/double shared, per person	£500
	twin/double “garden view” shared, per person	£560
	single (very few)	£500 - £560
	suite/studio, doubles per person	£660
Red Lion	singly occupied double/twin room	£530
	single (very few)	£530
	twin/double shared, per person	£410
Own accommodation	£ Registration fee only	£ Registration fee only

Please indicate on the attached form your first three preferences for accommodation (or to confirm clearly that you are arranging your own accommodation).

Please indicate on the same form if you wish to attend the Banquet. The banquet is not included in the accommodation package. For those who wish to attend the banquet on the Sunday evening, the extra cost (£50 per head, inclusive of wines) will be deducted from the accommodation deposit.

We shall try to arrange that all participants are given the accommodation of their choice. You will be contacted if this is not possible. The majority of rooms in all the hotels are twin, and it will be necessary to ask some to share or otherwise take a more expensive double room. We are under pressure from the hoteliers to avoid this wasteful use of their accommodation, so *volunteers to share rooms - particularly amongst participants from the same institution/company - are most welcome* and make the Secretary’s job easier and your costs much lower! *Please return the registration/accommodation information requested in this circular to me as soon as possible, and to reach me no later than 25th March 2011, indicating your preference for the various types of accommodation.*

As for previous Grasmere meetings, participants will be asked to settle the balance of their accommodation costs directly with the hotels before leaving Grasmere. This will avoid the necessity for us to register for VAT. A statement of the balance will be given to each participant when confirmation of room allocation is sent out in early April. The major credit cards will be acceptable at the hotels.

Form for Accommodation Choice, Banquet Booking and Student Bursary Application

Name (and title):

Name of accompanying person (if applicable):

Affiliation (e.g. name of company, university etc):

Email:

Accommodation choice (Please list 1st, 2nd, and 3rd or tick “any” if you have no preference)

Hotel	Room Type	Cost per person	Preference, 1, 2, 3
Wordsworth	singly occupied double/twin room	£640	
Wordsworth	twin/double shared, per person	£500	
Wordsworth	“garden view” twin/double shared, per person	£560	
Wordsworth	single (very few)	£500 - £560	
Wordsworth	suite/studio, twin/double shared, per person	£660	
Red Lion	singly occupied double/twin room	£530	
Red Lion	twin/double shared, per person	£410	
Red Lion	single (very few)	£410	
“any”		any of the above	
“own”	own arrangements	£ registration only	

If twin/double, please indicate your preference:

twin

double

either

Conference Banquet (Sunday – no dinner in hotels):

Number of banquet tickets 0 1 2

(the cost of this [£50.00 per ticket] will be deducted from the accommodation deposit)

Please insert here any special dietary requirements that you have:

PhD students only:

I wish to be considered for a student poster bursary,
TOTAL cost £330 (includes registration, all meals and accommodation) _____(please tick)

potential bursars: please submit your abstract [see the attached sample] electronically to k.hemming@hud.ac.uk by March 25th 2011 – you will be informed of the outcome before the end of March. Please indicate here if you are willing to attend if your application for a bursary is unsuccessful – the cost will be £80 plus accommodation costs as indicated in the table above (note that you can arrange you own, cheaper accommodation – see website on page 3, above).

YES / NO

Outline of Grasmere 2011, the 20th Lakeland Symposium, 5th – 9th May 2011

Thursday 5th May, 2011

14.00-17.45	Delegate Registration (Wordsworth Hotel Foyer)
17.45	<i>Dinner in your hotel</i>
19.45-21.15	Scientific Session, Village Hall
21.15	Wine and Beer Mixer (Red Lion Hotel)

Friday 6th May

08.00 onwards	<i>Breakfast in your hotel</i>
09.10-10.45	Scientific Session, Village Hall
10.45-11.15	Coffee, Village Hall
11.15-12.45	Scientific Session, Village Hall
13.00	<i>Lunch in your hotel</i>
afternoon free	
17.45	<i>Dinner in your hotel</i>
19.45-20.45	Scientific Session, Village Hall
20.45-23.00	Poster Session (Wordsworth Hotel)

Saturday 7th May

08.00 onwards	<i>Breakfast in your hotel</i>
09.10-10.45	Scientific Session, Village Hall
10.45-11.15	Coffee, Village Hall
11.15-12.45	Scientific Session, Village Hall
13.00	<i>Lunch in your hotel</i>
afternoon free	
17.45	<i>Dinner in your hotel</i>
19.45-21.15	Scientific Session, Village Hall including Charles Rees Lecture

Sunday 8th May

08.00 onwards	<i>Breakfast in your hotel</i>
09.10-10.45	Scientific Session, Village Hall
10.45-11.15	Coffee, Village Hall
11.15-12.45	Scientific Session, Village Hall
13.00	<i>Lunch in your hotel</i>
afternoon free:	Walk to Borrowdale
19.30 for 20.00	Conference Banquet
	<i>No dinner available in your hotel</i>

Monday 9th May

08.00 onwards	<i>Breakfast in your hotel</i>
09.10-10.15	Scientific Session, Village Hall
10.15-10.45	Coffee, Village Hall
10.45-12.30	Scientific Session, Village Hall
12:30	<i>Lunch in your hotel</i>

ADDITIONAL INFORMATION.

Poster Session:

There will be a poster session in the Wordsworth Hotel on Friday, after the evening lecture session. We are offering to all delegates the opportunity to submit posters; those interested in submitting a poster should email a one-page abstract (Word or pdf) based on the enclosed sample abstract, ***to reach me no later than 25th March***. As we are limited to a maximum of 40 posters, final choice will be made by the organising committee and the abstracts for successful poster entrants will be included in the meeting abstract booklet. We are delighted to announce that Peakdale Molecular have agreed to sponsor the poster prizes and that prizes of £250, £150 and £100 will be awarded to the best three posters presented by PhD students.

PhD Student Oral Presentations:

Final year PhD students should note that there will be a small number of short oral presentation slots available at this meeting. Abstracts to reach me no later than 25th March 2011. Bursaries are not available for these students, but please note the very low registration costs.

Social Activities:

The usual format of the meeting will be maintained with lectures in the mornings and evenings and afternoons free to discuss chemistry, catch up on work, relax or to explore the surrounding hills. There will be a wine, beer and soft-drink reception in the Red Lion after the Thursday evening lecture and the conference banquet will be held in the Wordsworth on the Sunday. The poster session on Friday evening will have a subsidised bar for beer, wine and soft-drinks.

The central location of the village allows the possibility of a variety of outdoor activities during the afternoons. These range from a stroll by the Lake, to more demanding adventures above the 900m contour for which, of course, sturdy footwear and waterproof clothing are essential. Fell walking 'opportunities' will be available on Friday and Saturday afternoon, led by one of our regular delegates, and it is hoped to hold the traditional 'Katritzky Memorial Walk' on the Sunday afternoon. Those new to Grasmere can be assured of a warm invitation to join in.

An informal programme of activities for accompanying persons will also be arranged. Grasmere is an ideal location for accompanying persons – there is plenty to do.

Travel:

The easiest way to reach Grasmere is to drive and there is ample parking at the hotels.

If travelling by air, by far the most convenient airport is Manchester Airport. From here, it is possible to take the train directly from the airport to Windermere. The journey time is 2 hours and there are direct trains every 2 hours through the day. Alternatively, it is possible to take other trains from the airport but it will be necessary to change at Manchester Piccadilly, Preston or Oxenholme (Lake District) and the journey time will be up to 3 hours.

If travelling by train from the north or south (or from airports other than Manchester), it is necessary to travel to Windermere by changing trains at Preston or Oxenholme (Lake District).

For the ~9 mile journey from Windermere to Grasmere, there are regular buses with a journey time of 35 minutes typically. Alternatively, it is possible to travel by taxi although this will be considerably more expensive.

MODEL ABSTRACT:

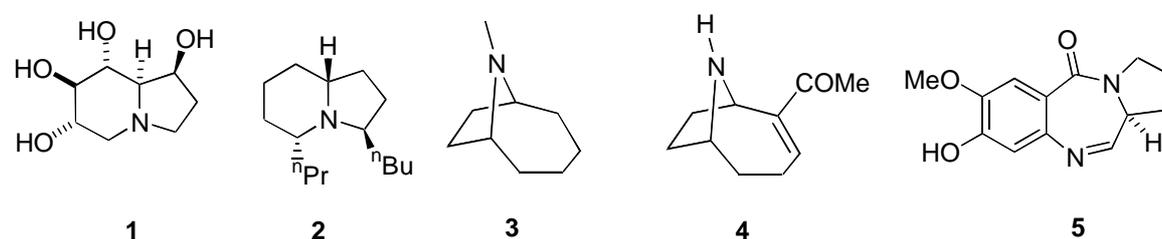
1-Azetines, Cyclopropenones, 1,2-Thiazine 1-oxides and Azides in Synthesis

Chris Chambers, Heidi Joao, Musharraf Khan, Vishnu Kondakal, Paul O’Gorman, Nilesh Patel, Arnaud Pitard, Ilyas Qamar and Karl Hemming*

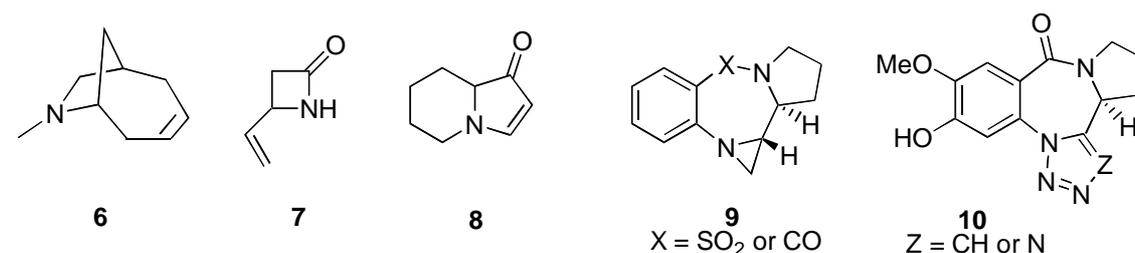
Division of Chemistry, University of Huddersfield, Queensgate, Huddersfield, HD1 3DH, UK.

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The indolizidines such as castanospermine **1** and indolizidine 223AB **2**, are attractive targets for synthesis because of the wide range of biological activities that they possess, such as the ability to block nicotinic receptor channels.¹ The homotropanes **3** are a group of alkaloids that includes the natural product anatoxin-a **4**, and have attracted attention because of their high affinity for the nicotinic acetylcholine receptor.² The pyrrolobenzodiazepine natural products, such as DC-81 **5**, have attracted interest as antitumour antibiotics.³



During this contribution, the synthesis of the homotropane isomeric analogue **6** will be described starting from the 1-azetidinone **7** and a cyclopropenone using, as a key step, an aza-Cope rearrangement.⁴ A discussion of the synthesis of some other beta-lactam analogues, including some important serine protease inhibitors,⁵ will be included. The use of cyclopropenones in the synthesis of indolizidines **8** and the related pyrrolizidine and pyrroloazepine nuclei will then be discussed,⁶ together with the use of cyclopropenones in a new pyridine synthesis. Finally, the synthesis of some pyrrolobenzodiazepine analogues, including the tetracyclic systems **9** and **10**, will be described.⁷⁻⁹



References

1. Daly JW, *Cell. Mol. Neurobiol.* **2005**; 25, 513 – 552.
2. Mansell HL, *Tetrahedron* **1996**; 52, 6025 – 6061.
3. Thurston DE and Bose DS, *Chem. Rev.* **1994**; 94, 433 – 465.
4. O’Gorman PA, Page MI and Hemming K, *Tetrahedron Lett.* **2006**; 47, 425 – 428.
5. Tsang WY, Ahmed N, Harding LP, Hemming K, Laws AP, and Page MI, *J. Am. Chem. Soc.* **2005**; 127, 8946 – 8947.
6. O’Gorman PA, Chen T, Cross HE, Naeem S, Pitard A, Qamar MI, Hemming K, *Tetrahedron Lett.* **2008**; 49, 6316 - 6319.
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8. Chambers CS, Patel N and Hemming K, *Tetrahedron Lett.* **2010**; 37, 4859 – 4861.
9. Chambers CS, Patel N and Hemming K, *Synlett* **2009**; 3043 – 3047.