

GC-MS WORKSHOP PROGRAMME
Addis Ababa
DEPARTMENT OF CHEMISTRY
25nd - 29th February, 2010

DAY 1: MONDAY 25th January, 2010

OPENING CEREMONY:		
Venue: Chair:		
Master of ceremony:		
TIME	EVENT	PRESENTERS
8.30 - 9.00	(a) Arrival & Registration of Participants	
9.00 - 9.45	(b) Remarks:- University staff	
	-	
	-	
9.45 - 10.15	Official Opening & Opening remarks: -	
10.15 - 10.45	<i>Tea Break</i>	
TRAINING SESSION 1		
Venue:		
10.45 – 1.00	Installation of GC-MS including introduction to the instrument and software	Tony Needham
1.00-2.00	Lunch	
TRAINING SESSION 2		
Venue:		
2.00-3.00	GC Instrumentation:	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(a) Gas chromatography-basic theory	^^
	(b) Columns and separation considerations	^^
	(c) Injection systems	^^
3.00-3.30	Tea break	
3.30-4.30	Mass Spectrometer instrumentation: Including setting up and tuning the instrument	Prof. Antony Gachanja/ Dr. Steve Lancaster/Mr Tony Needham
	(a)Basic Theory	^^
	(b) Ionization	^^
	(c) Mass spectrometer types	^^
4.30-5.00	Open Discussion and close of day 1	

DAY 2: TUESDAY 26th January, 2010

TRAINING SESSION 3		
Venue: IEET ENV LAB		
	Practical Session 1:	''
9.00-10.30	Basic Maintenance for GC-MS	Tony, Steve, Anthony
10.30-11.00	<i>Tea break</i>	
11.00-1.00	Basic Maintenance for GC-MS (Contd) including changing columns, liners and source components	''
1.00-2.00	Lunch	
TRAINING SESSION 4		
Venue:		
2.00-3.30	Basic Spectral interpretation:	
	(a) Introduction	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(b) Isotope abundances – how can these be useful?	''
	(c) Spectral appearance including some examples	''
3.30-3.45	<i>Tea Break</i>	
3.45	Elemental formulas including	''
	(a) isotopic abundances,	''
	(b) use of abundances for determining carbon and oxygen, rings plus double bonds equivalents	''
5.30	Open Discussion and close for the day	

DAY 3: WEDNESDAY 27TH January, 2010

TRAINING SESSION 5		
Venue:		
	Practical Session 2:	''
9.00-10.30	Exercises to determine simple structures	
10.30-11.00	<i>Tea break</i>	
11.00-1.00	Exercises to determine simple structures (Contd)	''
1.00-2.00	Lunch	
TRAINING SESSION 6		
Venue:		
2.00-3.30	More advanced methods in spectral interpretation including	Prof. Antony Gachanja/ Dr. Steve Lancaster
	(a) Nitrogen rule	''
	(b) Molecular ion	''
	(c) Molecular weight determination	''
3.30-4.00	<i>Tea break</i>	
4.00-5.30	Single bond cleavage	''
	Multiple bond cleavage	''
	Rearrangements, specifically McLafferty	''
5.30	End of session	

DAY 4: THURSDAY 28TH January 2010

TRAINING SESSION 7		
Venue: GC-MS LAB		
8.30 - 10.00	Practical session 3	
	Spectral Interpretation exercises using yesterdays rules	Prof. Antony Gachanja/ Dr. Steve Lancaster
10.00 - 10.30	<i>Tea break</i>	
10.30 - 1.00	Spectral interpretation continued	''
1.00 - 2.00	<i>Lunch break</i>	
2.00 - 3.30	Quantitative exercises including the use of internal standards	''
3.30 - 4.00	<i>Tea break</i>	
4.00 - 5.00	Quantitative exercises including the use of internal standards (Contd)	''

DAY 5: FRIDAY 29TH January 2010

TRAINING SESSION 8		
Venue: IEET ENV LAB		
8.30 - 10.00	Sample pre-treatment including	Prof. Antony Gachanja/ Dr. Steve Lancaster
	- solid phase extraction	''
	- liquid/liquid extraction	''
	Identification of unknowns in an analgesic drug sample	''
	Designing experiments to quantify some compounds in the above matrix	''
10.00 - 10.30	<i>Tea Break</i>	
10.30 - 11.30	Open Discussion	
11.30 - 1.00	Way forward	
1.00 - 2.30	<i>Lunch Break</i>	
2.30 - 3.30	Closing Ceremony	