Chemistry 416, Dr. Glaser Applications of Mass Spectroscopy: Isotope Patterns and Fragmentation.

In Unknown 2.4, calculate (after checking for (M+2) elements) the maximum number of carbon atoms in the ions m/z 43 and 58. The results indicate that m/z 43 is formed from m/z 58 by the loss of what group?

Unknown 2.4						
m/z	int.	m/z	Int.			
12	0.1	40	1.6		100-	43
13	0.3	41	27.		100	
14	1.0	42	12.		-	
15	5.3	43	100.	~	-	
25	0.5	44	3.3	ısit	-	
25.5	0.4	48	0.1	ter	-	
26	6.1	49	0.4	.5	50- 20	
26.5	0.1	50	1.2	live	- 29	
27	37.	51	1.0	elat		
27.5	0.1	52	0.3	Ř		
28	32.	53	0.7		_ ∥	58
29	44.	54	0.2		-15	
30	1.0	55	0.9		և. 	
36	0.1	56	0.7		m/z 20	40 60
37	1.0	.57	2.4			
38	1.8	58	12.			
39	12.	59	0.5			

The Unknown 2.5 has a small but important peak at m/z 80. The m/z 79 peak could <u>not</u> be consistently explained if the m/z 80 would be taken as indicative of ¹⁸O. Why not. What is this compound?

Unknown 2.5						
m/z	Int.	m/z	Int.			
12	0.2	53	0.8	100		
13	0.4	60	0.2			
14	0.4	61	0.4			
15	1.0	62	0.8	<u>ح</u>		
24	0.4	63	2.9			
25	0.8	64	0.2	ja –		
26	3.2	72	0.4	<u>50</u>		
27	2.6	73	1.0			
36	0.9	74	3.9			
37	3.8	75	2.2	rữ51		
39	13.	76	7.0	39		
40	0.4	77	15.	15 26 63		
50	16.	78	100.	┕┱╶╶╝┰┍┉┥┰╶╫┉┌╼		
51	19.	79	6.8	m/z 20 40 60 80		
52	20.	80	0.2			