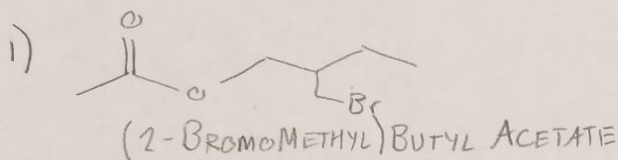



HW #1 SUPPLEMENTAL Qs



2)  $\sum [8(1.11) + 16(0.016)] = 9.136\%$
 C_8H_{16}

3)

	EXACT WEIGHT ^(Common)	C_6H_{12}		C_5H_8O	
C	12.00	6	72	5	60
H	1.00783	12	12.09396	8	8.06264
O	15.9949	0	0	1	15.9949
Total:		84.09396		84.05754	

→ CLOSEST TO $M = 84.059$
 C_5H_8O

4) 2 METHODS: FOR BOTH, $M_e = 186$ IS THE MOLECULAR ION b/c IT'S MADE UP OF MOST COMMON ISOTOPES FOR Br (^{79}Br)

1ST) (EASY) ASSUME ^{79}Br & ^{81}Br ARE 1:1

1 ST Br	2 ND Br	MW	OCCURRENCE	DIVIDE BY MI OCCURRENCE	REL. PEAK INTENSITY
79	79	186	1	1/1	100%
79	81	188	2	2/1	100%
81	79	188			
81	81	190	1	1/1	100%

REL. PEAK INTENSITY

186 : 100% (DEFINITIONALLY)

188 : 200%

190 : 100%

↳ THIS METHOD IS FINE FOR THE MIDTERM

2ND) (RIGOROUS) CONVERT Br ISOTOPE REL. ABUNDANCE TO %

$^{79}Br: \frac{100}{100+98} = 0.50505$ $^{81}Br: \frac{98}{100+98} = .49495$

1 79-79 COMBO: $(1)(.50505)^2 \Rightarrow (.25508) / (.25508) \cdot 100\% \Rightarrow 186: 100\%$

2 79-81 COMBO: $(2)(.50505)(.49495) \Rightarrow (.49995) / (.25508) \cdot 100\% \Rightarrow 188: 196\%$

1 81-81 COMBO: $(1)(.49495)^2 \Rightarrow (.24498) / (.25508) \cdot 100\% \Rightarrow 190: 96\%$

REL. PEAK INTENSITY

186 : 100%

188 : 196%

190 : 96%

BONUS Q

