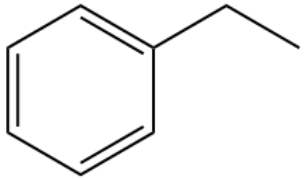
CONCEPT: ^{13}C NMR – GENERAL FEATURES

^{13}C NMR is a *more limited* type of nuclear magnetic resonance that identifies ^{13}C instead of ^{1}H.

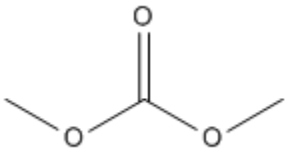
- Due to low natural incidence of the ^{13}C isotope, _____ is NOT observed. (---------) (---------) =
- All of the other principles from ^{1}H NMR apply, except that we must learn new shift values:

C – H	**5 - 45**	C = C	**100 - 140**
C ≡ C	**65 - 100**	Benzene	**120 - 150**
Z – C – H	**30 - 80**	Carbonyl	**160 - 210**

EXAMPLE: How many ^{13}C signals would ethylbenzene give?



EXAMPLE: Which compound(s) will give only one peak in both its ^{1}H and ^{13}C spectra?

a. 

b. $BrCH_2CH_2Br$

c. 

d.