PROBLEM SET KEY: GABA Drugs

1. For the compounds shown below, circle the appropriate response or responses. There may be more than one correct answer, or no correct answer.

   ![Compound A](image1.png)
   ![Compound B](image2.png)
   ![Compound C](image3.png)
   ![Compound D](image4.png)

a. Which compounds are GABA receptor antagonists? **None (D is BDZ antagonist)**
b. Which compounds are classified as “traditional” benzodiazepines? **B and C**
c. Which compounds yield stable salts upon treatment with acid? **A and D**
d. Which compounds yield active metabolites by C-3 oxidation? **C (And A if R3=H)**
e. Which compounds are orally active? **A, B and C**
f. Which produce their therapeutic effects in the CNS? **A, B, C and D**
g. Which compounds are eliminated as O-glucuronides? **A, B and C**
h. Which compound is the longest-acting BDZ agonist? **C**
i. Which compounds are inactivated by hydrolysis? **D**
j. Which compounds are inactivated by oxidative N-dealkylation? **None**
k. Which compounds are metabolized by reduction and acetylation? **None**
l. Which compounds contain a chiral carbon? **B (and A if R3 ≠H)**
m. Which compounds produce sedation? **A, B and C**
2. Draw the structure of a common metabolite formed from B and C above.

3. How do vinyl-GABA, Allylglycine and Gabapentin differ in their mechanism of action from each other and the benzodiazepines? See Notes!