Quiz #5

1) Provide a structure for each of the following compounds. (2 pts)
   a) 2,4,6-Tribromophenol    b) Anisole

2) Identify each of the following as aromatic, nonaromatic, or antiaromatic. (4 pts)

3) Determine which compound is expected to exhibit a larger dipole moment and explain your choice. (2 pts)

4) Predict the major product(s) for each of the following reactions. (6 pts)
5) Propose an electron-pushing mechanism for the following transformations. (6 pts)

a)

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\[ \text{PhCO} + \text{CH}_3\text{CH} = \text{CHCH}_3 \rightarrow \text{PhCO} + \text{CO}_2 \]  
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b)

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\[ \text{R}_2\text{N} + \text{NTs} \rightarrow \text{R}_2\text{N} + \text{NTs} \]  
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\[ 135^\circ \text{C} \]

(c) When 5-deutero-5-methyl-1,3-cyclopentadiene is warmed to room temperature, it rapidly rearranges, giving an equilibrium mixture containing the original compound as well as two others. Propose a plausible mechanism for the formation of these other two compounds.

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\[ \text{MeD} \leftrightarrow \text{MeD} \leftrightarrow \text{MeD} \]  
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\[ 25^\circ \text{C} \]