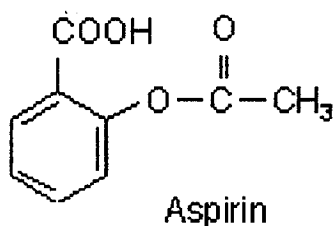


靜宜大學 105 學年度碩士班招生考試試題

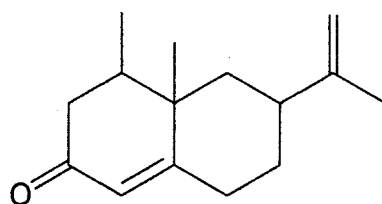
學系：化粧品科學系

科目：有機化學

- (i) Give the ground-state electron configuration of calcium (${}_{20}\text{Ca}$).
(ii) How many valence electrons does calcium have? (6%, 4%)
- Write the line-bond structure of the following compound. (6%)
CHN
- Calculate the number of sigma (σ) and pi (π) of aspirin? (4%, 4%)

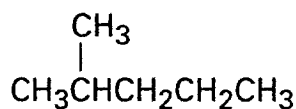


- Calculate the number of primary carbon, secondary carbon, tertiary carbon and quaternary carbon of the following compound? (16%)

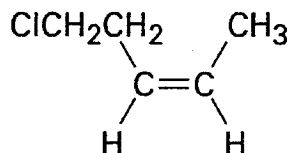


- Give the IUPAC name of the following compound? (16%)

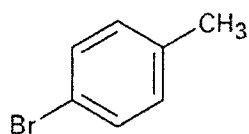
(i)



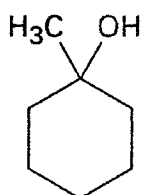
(ii) hint: Cl (chloro)



(iii)



(iv)



靜宜大學 105 學年度碩士班招生考試試題

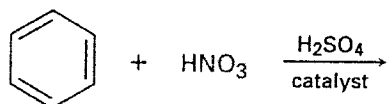
學系：化粧品科學系

科目：有機化學

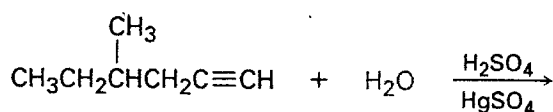
6. Predict the major product of the following reactions?

(30%)

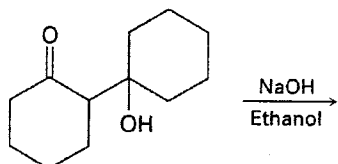
(i)



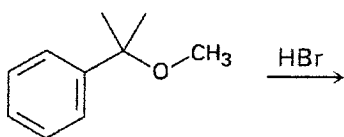
(ii)



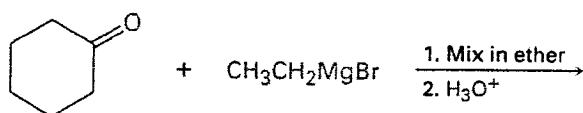
(iii)



(iv)



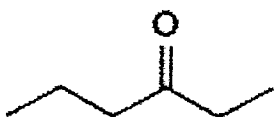
(v)



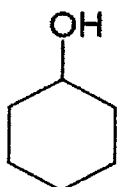
7. Which one of the following compounds is most consistent with the IR spectrum given in Figure-1? Explain your reasoning.

(6%, 8%)

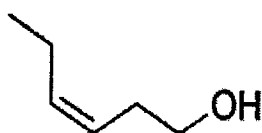
(i)



(ii)



(iii)



靜宜大學 105 學年度碩士班招生考試試題

學系：化粧品科學系

科目：有機化學

