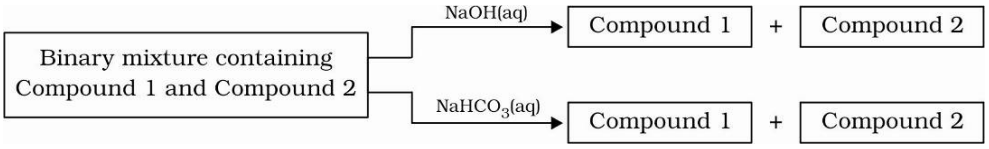
Date Planned : __ / __ / __	Daily Tutorial Sheet-4	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

***46.** Identify the binary mixture(s) that can be separated into individual compounds, by differential extraction, as shown in the given scheme. **(2012)**



(A) C_6H_5OH and C_6H_5COOH **(B)** C_6H_5COOH and $C_6H_5CH_2OH$

(C) $C_6H_5CH_2OH$ and C_6H_5OH **(D)** $C_6H_5CH_2OH$ and $C_6H_5CH_2COOH$

47. The compound that undergoes decarboxylation most readily under mild condition is : **(2012)**

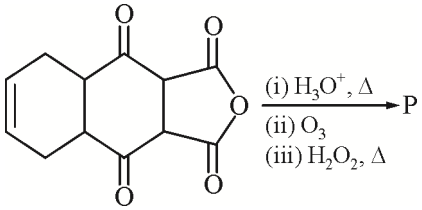
(A) **(B)** **(C)** **(D)**

48. The compound that does NOT liberate CO_2, on treatment with aqueous sodium bicarbonate solution, is

(A) Benzoic acid **(B)** Benzenesulphonic acid **(2013)**

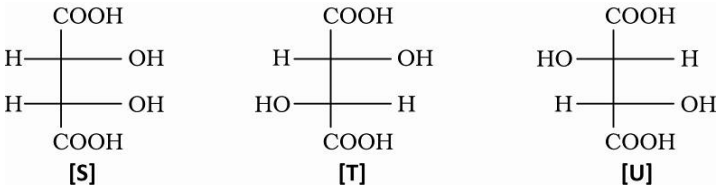
(C) Salicylic acid **(D)** Carbolic acid (Phenol)

49. The total number of carboxylic acid groups in the product P. **(2013)**



PARAGRAPH FOR QUESTIONS 50 - 51

P and Q are isomeric dicarboxylic acid $C_4H_4O_4$. Both decolorize Br_2/H_2O. On heating, P forms a cyclic anhydride. Upon treatment with dilute alkaline $KMnO_4$. P as well as Q could produce one or more than one from compounds S, T and U given : **(2013)**



Choose the correct option for 1 and 2 :

50. Compounds formed from P and Q are, respectively :

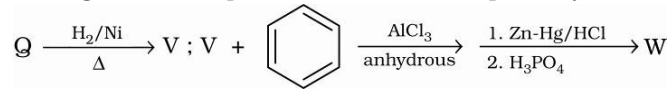
(A) Optically active S and optically active pair (T, U)

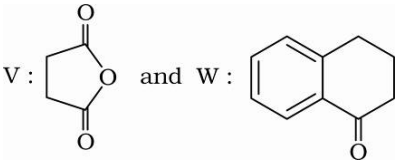
(B) Optically inactive S and optically inactive pair (T, U)

(C) Optically active pair (T, U) and optically active S

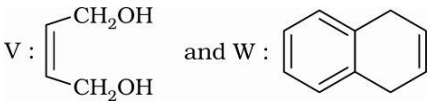
(D) Optically inactive pair (T, U) and optically inactive S

51. In the following reaction sequence V and W are, respectively :

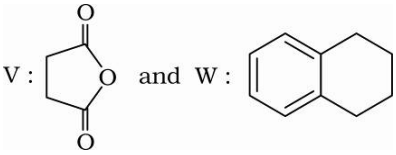




(A)



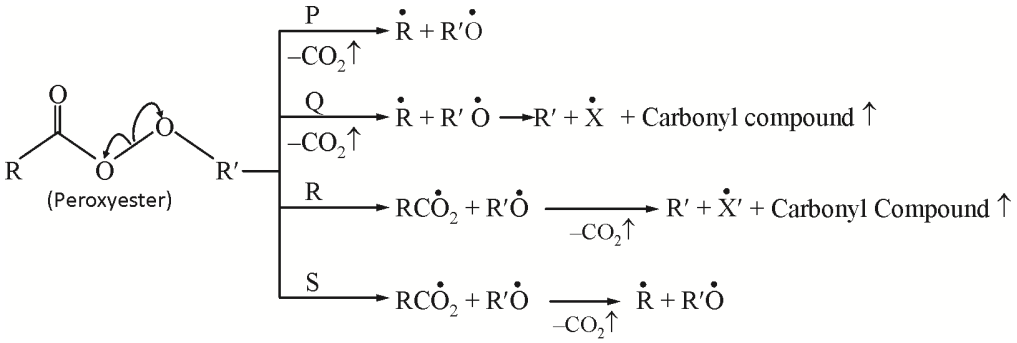
(B)

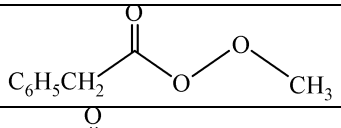
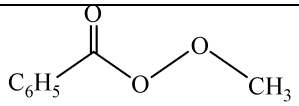
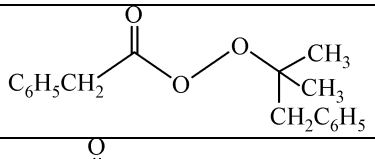
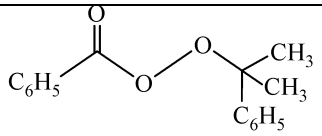


(C)

(D)

52. Different possible thermal decomposition pathways for peroxyesters are shown below. Match each pathway from Column I with an appropriate structure from Column II and select the correct answer using the code given below the lists. **(2014)**

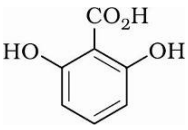


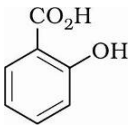
Column I		Column II	
P.	Pathway P	**1.**	
Q.	Pathway Q	**2.**	
R.	Pathway R	**3.**	
S.	Pathways S	**4.**	

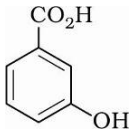
Codes

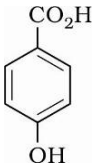
	P	Q	R	S		P	Q	R	S
(A)	1	3	4	2	**(B)**	2	4	3	1
(C)	4	1	2	3	**(D)**	3	2	1	4

53. The correct order of acidity for the following compounds is : **(2016)**


I

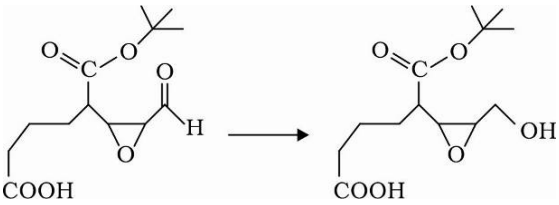

II


III


IV

(A) I > II > III > IV **(B)** III > I > II > IV **(C)** III > IV > II > I **(D)** I > III > IV > II

54. Reagent(s) which can be used to bring about the following transformation is(are) **(2016)**

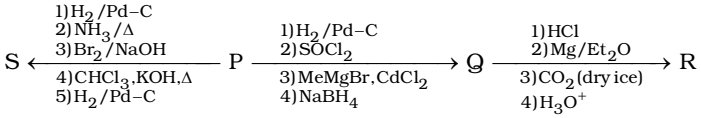


(A) $LiAlH_4$, in $(C_2H_5)_2O$ **(B)** BH_3 in THF

(C) $NaBH_4$ in C_2H_5OH **(D)** Raney Ni / H_2 in THF

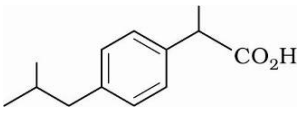
PARAGRAPH FOR QUESTIONS 55-56 **(2018)**

An organic acid $P(C_{11}H_{12}O_2)$ can easily be oxidized to a dibasic acid which reacts with ethylene glycol to produce a polymer dacron. Upon ozonolysis, P gives an aliphatic ketone as one of the products. P undergoes the following reaction sequences to furnish R via Q. The compound P also undergoes another set of reactions to produce S.

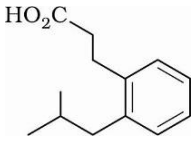


55. The compound R is

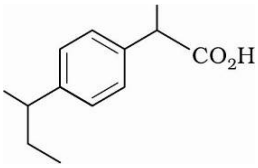
(A)



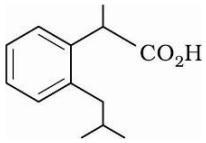
(B)



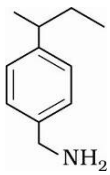
(C)

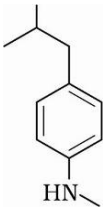


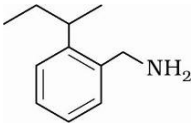
(D)

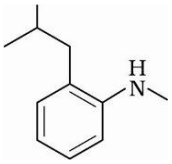


56. The compound S is

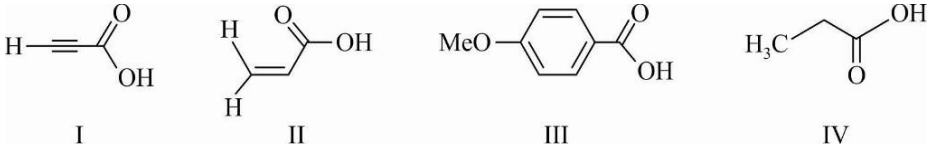

(A)


(B)


(C)


(D)

57. The correct order of acid strength of the following carboxylic acids is : **(2019)**



I II III IV

(A) I > III > II > IV **(B)** II > I > IV > III

(C) III > II > I > IV **(D)** I > II > III > IV