

CHAPTER - VI

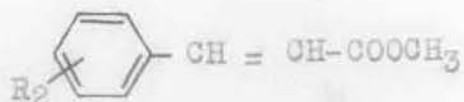
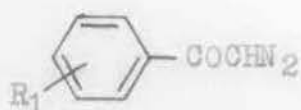
Relative catalytic activity of metal ions in carbene reactions.

Section-A : Objects, Results and Discussions.

In the carbene chemistry of ketocarbene addition to olefinic double bond is catalysed by copper powder or its salts. With a view to see the effectiveness as a catalyst of the copper powder or its salts in our system, we have taken the same reacting substrates but different catalysts. Other condition of the reaction was maintained the same as possible.

The result obtained is given in table 6 . It is seen that in our system of ketocarbene addition, the active copper powder was more effective than the other copper salts. In this study active copper powder, anhydrous copper sulphate, cuprous chloride, CuO/Cu and palladium acetate were used as catalysts. Among these, active copper powder gave rise to larger amount of ketocarbene addition product. But in the case of palladium acetate no trace of addition product isolated. So we can conclude that in these reactions, palladium acetate did not help in decomposing diazoketones as we could not isolate also the dimer of ketocarbene.

Table - 6



Sl. No.	Catalyst	R ₂	R ₁	Refluxing time	Product	
					Addition	Self Condensation
1.	Cu-powder	p-OCH ₃	H	10 Hrs.	45%	10%
2.	Anhydrous Copper sulphate	"	H	"	30%	12%
3.	Cuprous chloride	"	H	"	32%	10%
4.	CuO/Cu	"	H	"	35%	8%
5.	Palladium acetate	"	H	"	-	-
6.	Cu-powder	P-NO ₂	H	"	18%	12%
7.	CuSO ₄ (anhydrous)	"	"	"	15%	10%
8.	CuCl	"	"	"	18%	10%
9.	Palladium acetate	"	"	"	-	-