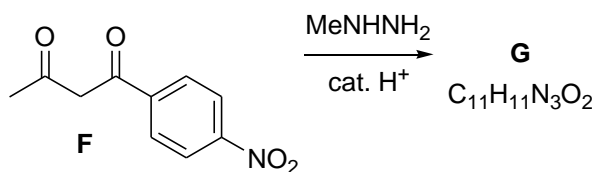
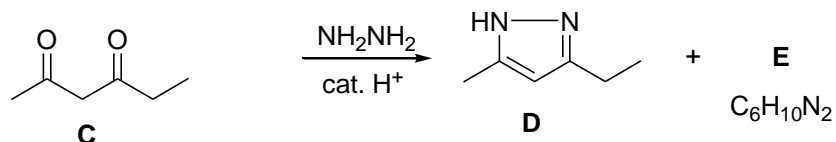


Heterocyclic Chemistry 1, Semester 2, 2011 (06522)

1. Answer **ALL** of the following parts.

(a)-(c) RWB questions

(b) Consider the scheme below.



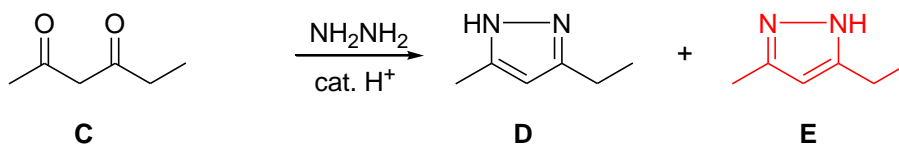
- Draw the structure of heterocycle **E** which is produced with **D** in the reaction of 1,3-diketone **C** with hydrazine.
- What is the relationship between **D** and **E**?
- Work out the structure of **G** from reaction of 1,3-diketone **F** with methylhydrazine, and explain why **G** is the only heterocycle formed in this reaction.

(3, 1, 6 marks)

Heterocyclic Chemistry, Semester 2, 2011 (06522)
MODEL ANSWER

(d)

(i)



(ii) **D** and **E** are tautomers of one another.

(iii)

electron withdrawing *p*-nitrophenyl group increases δ^+ on the neighbouring C=O and makes it more electrophilic.

presence of N-Me means that this pyrazole cannot tautomerise (unlike E/E')

