

ORGANIC CHEMISTRY (BS-ADP 5th Semester)

Module Code:	Chem-308
Module title:	Named Reactions
Name of Scheme:	BS-ADP 5th Semester
Department:	School of Chemistry
Faculty:	Science
Module Type:	Compulsory
Module Rating:	2 Credits

OBJECTIVES

To acquire knowledge about mechanisms and applications of a set of classic and well known reactions in organic synthesis.

SYLLABOUS OUTLINES:

1. Active Methylene Compounds

Enols and enolates, Kinetic and thermodynamic enolates, alkylation, acylation and halogenation of active methylene compounds, acid and base catalyzed reactions of mono-functional and bi-functional active methylene compounds e.g. malonic ester, β -ketoester, cyanoester, malononitrile, and dinitro compounds etc. Cyclization and decarboxylation.

2. Named Reactions

Description, Conditions, mechanism and synthetic applications of the following named reactions; Aldol, Claisen, Dieckmann, Perkin, Henry, Knoevenagel, Reformatsky, Darzen's (glycosidic ester synthesis), and Mannich reaction.

RECOMMENDED BOOKS:

1. Organic Chemistry, Vol. I (6th Ed.) and II (5th Ed.) by I.L. Finar, Pearson Education (Singapore) Pvt. Ltd. 2008.
2. March's Advance Organic Chemistry: Reactions, Mechanisms and Structures. (6th Ed.) by M.B. Smith and J. March, Wiley, 2007.
3. A Text-Book of Organic Chemistry by M. Younas, ILMI, Pakistan.
4. Organic Chemistry, (5th Ed.) by S.H. Pine, McGraw Hill, New York, USA, 1987.
5. Organic Chemistry, (6th Ed.) by Francis A. Carey, McGraw Hill, USA, 2005.
6. Organic Chemistry, (6th Ed.) by R.T. Morrison, R.N. Boyd and R.K. Boyd, Benjamin Cummings, 1992.
7. Modern Synthetic Reactions, (2nd Ed.) by H.O. House, W.A. Benjamin Inc., Menlo Park, CA.
8. Principals in Organic Synthesis, by R.O.C. Norman and M.J. Coxon, Chapman and Hall, 1993.
9. Organic Chemistry, by Jonathan Clayden, Nick Greeves and Stuart Warren, Oxford University Press, 2000.