Postgraduate Lecture Course

Chemistry of phosphorus and related elements
(Dr R. A. Aitken)

This course, which was last presented in 2015 and counts for 2 postgraduate credits, will be held as follows:

Tuesday 20th, Wednesday 21st and Thursday 22nd March, 10.00 am – 12.00 noon each day in Lecture Theatre D

Literature on phosphorus chemistry. Elemental phosphorus and simple inorganic chemistry. Comparison of possible structures with nitrogen. $^31$P NMR - range of known chemical shifts and coupling constants. Nomenclature of organophosphorus compounds. Tautomerism. Synthesis and reactivity of the major types of organophosphorus compounds: Monocoordinate phosphorus compounds - phosphinidenes and phosphaalkynes; Dicoordinate phosphorus compounds - phosphaalkenes, phosphabenzene, diphosphenes; Phosphines and other tricoordinate P(III) compounds; The Michaelis Arbusov reaction, tetracoordinate P(V) compounds; Pentacoordinate P(V) compounds - phosphoranes, pseudorotation; Phosphonium ylides - the Wittig reaction; Ylides of arsenic, antimony and bismuth; Horner and Wadsworth Emmons reactions. Use of phosphorus reagents in organic synthesis: Deoxygenation and desulfurisation; Halogenation; Dehydrative coupling and cyclisation; Sulfurisation; Miscellaneous reactions.

All readers are welcome to attend.

RAA

School of Chemistry Colloquia

Synthesis Seminar
Tuesday 20th, 1.00 pm, Lecture Theatre B
Susana Estopina (JET) – Catalytic activation of alcohols using boronic acids
Chenfei Li (EZC) – Photophysics and photochemistry of earth abundant metal complexes

EaStCHEM Colloquium
Wednesday 21st, 3.30 pm, Lecture Theatre C
Prof Charlotte Williams (Oxford) – From Organometallic Chemistry to Colloidal Catalysts: The Case of Zinc and Copper Nanomaterials