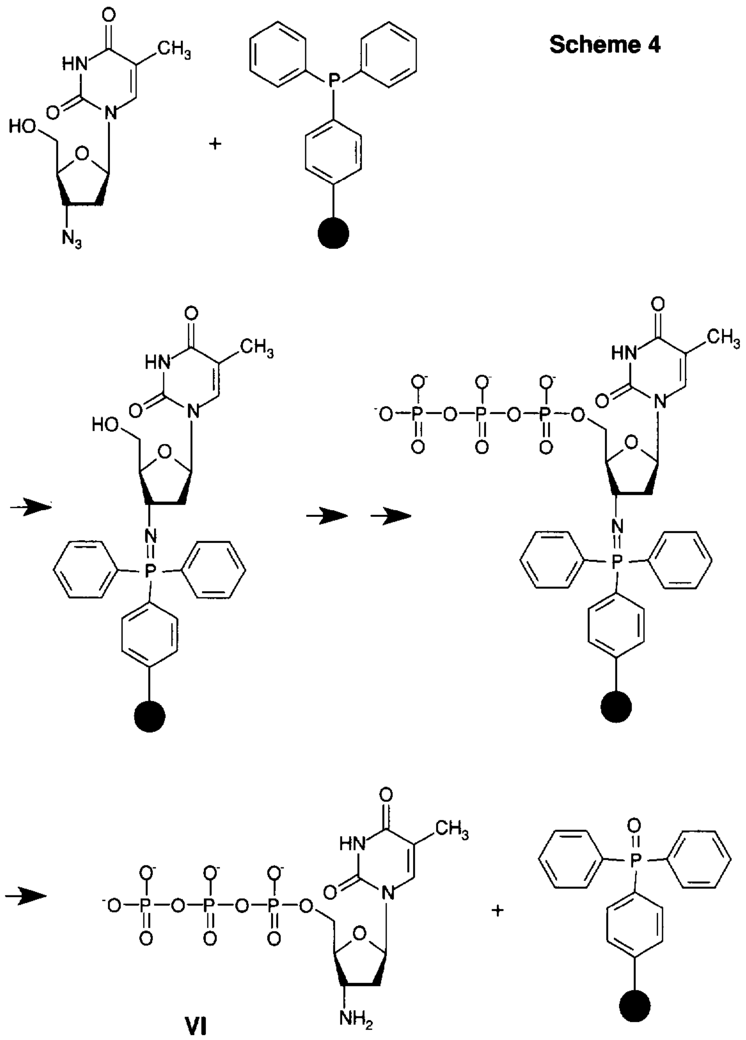
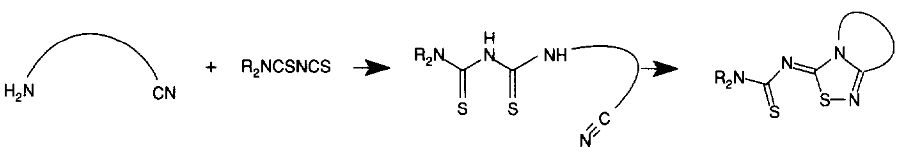


Scheme 4

terminators for DNA and RNA sequencing and for studying the mechanisms of ribozymes. The resistance of these nucleosides to degradation by nucleases also makes them attractive for the synthesis of modified RNA and DNA sequences as antisense oligonucleotides. Schoetzau, T., Holletz, T. and Cech, D. [*Chem. Commun.* (1996) 387–388] describe the use of a solid-support approach for the rapid synthesis of these amino 5′-triphosphate nucleosides, such as **VI**, using a polymer-bound triphenylphosphine (Scheme 4). As the azidonucleosides are bound to the support through a stable phosphinimine linkage, chemical manipulations to the nucleoside can be conducted whilst it is still attached to the polymer.

Synthesis of fused 1,2,4-thiadiazoles

L'abbé, G., D'hooge, B. and Dehaen, W. [*J. Chem. Soc., Perkin Trans. I*(1996) 225–226] describe the synthesis of fused 1,2,4-thiadiazoles **VIII** from cyano-substituted amines and thiocarbamoyl isothiocyanates by oxidation of the intermediate dithiobiurets **VII** (Scheme 5). This approach may have application for the preparation of a wide range of fused 1,2,4-thiadiazoles for screening using linear combinatorial synthesis.

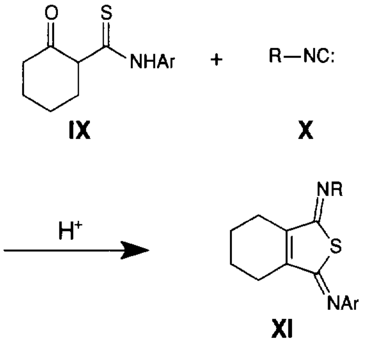


Scheme 5

Synthesis of benzo[*c*]-thiophenes

Bossio, R. and coworkers [*J.Chem. Soc., Perkin Trans. I* (1996) 229–230] describe the synthesis of 1-arylimino-3-(*N*-substituted imino)-1,3,4,5,6,7-hexahydrobenzo-[*c*]thiophens **XI** using a single-pot reaction between 2-(arylaminothiocarbonyl)cyclohexanes **IX** and isocyanides **X** under acidic conditions (Scheme 6). This hitherto unknown class of diimino thioanhydrides may be useful as dienophiles in Diels–Alder reactions.

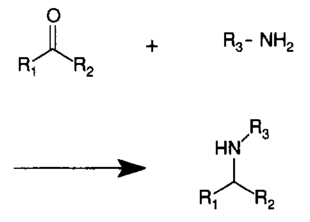
Scheme 6



Preparation of secondary amines

Mićović, I.V. and coworkers [*J.Chem. Soc., Perkin Trans. I* (1996) 265–269] describe a novel and efficient approach to the preparation of secondary amines by reductive amination of carbonyl compounds with primary amines (Scheme 7). The process involves the use of metallic magnesium in methanol, as the reducing agent, in the presence of a triethylamine-acetic acid buffer.

Scheme 7



R_1 = alkyl, R_2= H,alkyl, R_3= H,alkyl,aryl