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1-Methyl-Z-(2'-Hydroxyphenyl)Imidazole-A Catalytic Phosphate protecting group in deoxyoligonucleotide synthesis

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1-METHYL-2-(2'-HYDROXYPHENYL)IMIDAZOLE--A CATALYTIC
PHOSPHATE PROTECTING GROUP IN DEOXYOLIGONUCLEOTIDE SYNTHESIS

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Summary

The rate of condensation using the phosphate triester method of deoxy-oligonucleotide synthesis is dramatically increased by the introduction of a phosphate protecting group bearing a nucleophilic catalyst in the proper position. Following condensation (resulting in the formation of a phosphate triester) the catalytic protecting group can be removed leaving a dinucleotide, or the condensation reaction can be repeated to synthesize an oligonucleotide. This development is a significant advance in the chemical synthesis of deoxyoligonucleotides.