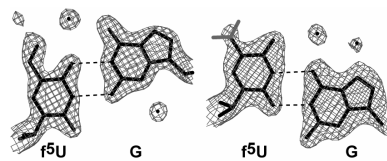


## X-Ray Analyses of DNA Dodecamers Containing 2'-Deoxy-5-formyluridine

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It is known that formylation of thymine base induces purine transition in DNA replication. In order to establish the structural basis for such mutagenesis, crystal structures of two kinds of DNA dodecamers d(CGCGRATf<sup>5</sup>UCGCG) with f<sup>5</sup>U=2'-deoxy-5-formyluridine and R=A or G have been determined. The f<sup>5</sup>U residues form a Watson-Crick-type pair with A[1,2] and two types of pairs (wobble and reversed wobble) with G[3] (see figure), the latter being the first example. Structural modeling suggests that the DNA polymerase can accept the reversed wobble pair with G, as well as the Watson-Crick pair with A.



**Figure 2**  $2|F_o|-|F_c|$  maps around the f<sup>5</sup>U residues found in crystals of f<sup>5</sup>U:G.

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