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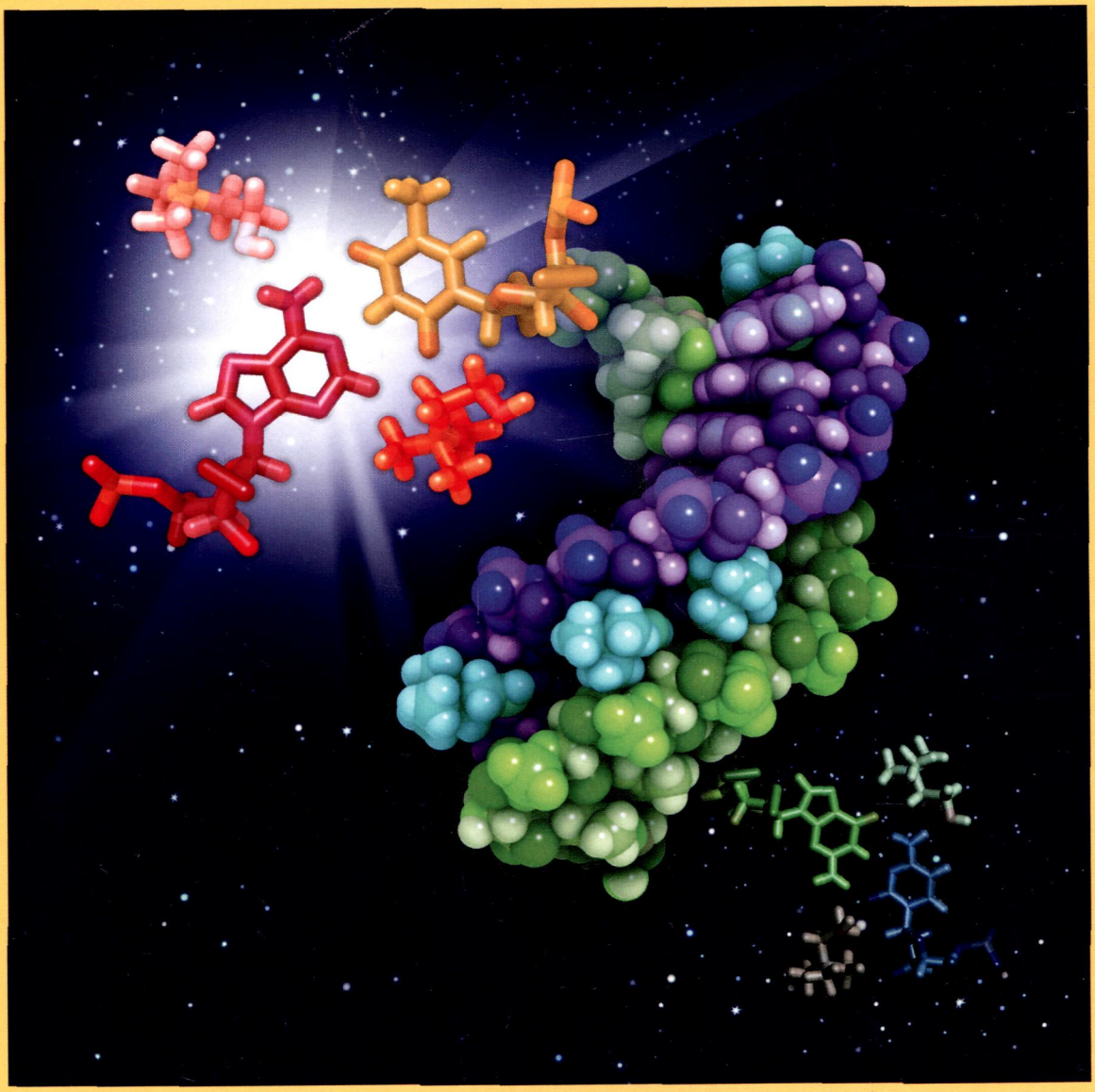

The A–T Base Pair Is the Most Stable Base Pair in Choline-Containing Solutions (see page 5A)

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ON THE COVER: The A–T base pair is the most stable base pair in choline-containing solutions. The unique binding interactions of choline ions with DNA duplexes from a microscopic viewpoint are elucidated using molecular dynamics simulations. The choline ions bind stably through multiple hydrogen-bonding networks with DNA atoms. The affinity of the choline ion for the minor groove of the A–T base pairs is more than 2 times that for other groove areas. In the narrow A–T minor groove, the choline ion has high affinity for the ribose atoms of thymine. In contrast, choline ions break the formation of hydrogen bonds between G–C base pairs by binding to the base atoms. Therefore, in a solution containing choline ions, A–T base pairs are more stable than G–C base pairs because of preferential binding of the choline ions to the DNA duplexes. See page 379.

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Additions and Corrections

Ⓢ Supporting Information available via online article