〔J. Am. Chem. Soc., **108**, 3152 (1986)〕

Stereochemical Analysis of the Methyl Transfer Catalyzed by Cobalamin-Dependent Methionine Synthase from *Escherichia coli* B. T. M. ZYDOWSKY, L. F. COURTNEY, V. FRASCA, K. KOBAYASHI, H. SHIMIZU*, L.-D. YUEN, R. G. MATTHEWS, S. J. BENKOVIC, H. G. FLOSS

Methionine samples obtained from incubation of chiral methyl-*R*- and methyl-*S*-5-CH_3-H_4 folate with cobalamin-dependent methionine synthase in the presence of dithiothreitol, aquocobalamin, homocysteine, and *S*-adenosylmethionine were degraded to recover the methyl group as acetate for chirality analysis. *F* Values of 42.5 and 44.2 for the material derived from methyl-*S*-5-CH_3-H_4 folate and 56.3 and 55.7 for that from methyl-*R*-5-CH_3-H_4 folate indicate that the cobalamin-dependent methionine synthase from *E. coli* transfers the methyl group of 5-CH_3-H_4 folate stereoselectively to the sulfur of homocysteine to generate methionine with net retention of configuration.

〔Tetrahedron Lett., **27**, 717 (1986)〕

Ylide-induced Ylide Formation: A Novel Double Cycloaddition Reaction of a 〔1,2,4〕Triazolo〔1,5-*a*〕pyrimidinium Ylide. MIKIO HORI*, TADASHI KATAOKA, HIROSHI SHIMIZU, EIJI IMAI, KIYOMI TANAKA, KAZUHIKO KIMURA, YOSHINOBU HASHIMOTO, MASARU KIDO

Treatment of 5,7-dimethyl-3-phenacyl〔1,2,4〕triazolo〔1,5-*a*〕pyrimidinium ylide with methyl propiolate caused a novel double cycloaddition reaction to give a 2-cyanamidopyrimidine derivative and a 3,3a-dihydropyrazolo〔1,5-*c*〕pyrimidine derivative (**1**) in yields of 18.5% and 26.6%, respectively. The new compound (**1**) was a mixture of two diastereoisomers. Their structures were determined by the ^1H- and ^{13}C-NMR spectroscopy and X-ray analysis.

〔Biochem. Biophys. Res. Commun., **141**, 555 (1986)〕

2′,5′-Phosphodiesterase Activity Depends Upon the Presence of a 3′-Hydroxyl Moiety in the Penultimate Position of the Oligonucleotide Substrate. D. ALSTER, D. BROZDA, Y. KITADE,* A. WONG, R. CHARUBARA, W. PFLEIDERER, P. F. TORRENCE

3′-Deoxyadenosine (3′dA, cordycepine)-substituted analogs of 2-5A core 5′-monophosphate (p5′ A2′ p5′ A2′ p5′ A) were examined for their sensitivity toward degradation by the 2′-phosphodiesterase activity in cytoplasmic extracts of mouse L cells. The analogs, p5′ (3′dA) 2′ p5′ A2′ p5′ A, and p5′ A2′ p5′ A2′ p5′ (3′dA) were degraded at a rate comparable to p5′ A2′ p5′ A2′ p5′ A itself. The data imply that sensitivity to the 2′,5′-phosphodiesterase activity of mouse L cells requires the presence of 3′-hydroxyl moiety in the penultimate nucleotide.