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Jisun Lim* (jisun@colorado.edu), Department of Applied Mathematics, 526 UCB, Boulder, CO 80309, and **Seungjoon Choi** (chopin9530@naver.com), Ajou University School of Medicine, San 5, Wonchun-Dong, Yeongtong-Gu, Suwon, 443-749, South Korea. *Stability of the Bicarbonate System in the Blood.*

We discuss the global stability to a system of chemical reaction-diffusion equations, which involves the bicarbonate buffer system in the blood. An application of the stability analysis to kinetics differential equations is also presented with an explanation of both normal and simple acid-base disorders. These results have been obtained jointly with S. Choi. (Received July 26, 2007)