pH-Dependent Quenching of the Fluorescence of Tryptophan Residues in Class A β -Lactamase from E. coli (TEM-1) Christo Christova,b,*, Dimitar Ianeva, Alexandra Shoshevac, and Boris Atanasova

Institute of Organic Chemistry Bulgarian Academy of Science, Sofia 1113, Bulgaria Group of Theoretical and Computational Chemistry, Department of Experimental

^c Institute of Biophysics Bulgarian Academy of Science, Sofia 1113, Bulgaria * Author for correspondence and reprint requests Z. Naturforsch. **59 c**, 824–827 (2004); received May 11/June 16, 2004

We performed an investigation of the pH-dependent quenching of the fluorescence of tryptophan residues of TEM-1 β -lactamase from \hat{E} . coli by uncharged and charged quenchers. pH-dependent Stern-Volmer constants (K_{SV}/pH) of tryptophan residues allowed us to deter-

mine subtle but discrete structurally and functionally important processes.

Key words: β-Lactamase TEM-1. Fluorescence Ouenching, Conformational Changes

E-mail: christov@sg.uji.es

Sciences, University Jaume I, 12080 Castellon, Spain, Fax: ++34 964 72 80 66.