Environmental Science & Technology

Addition/Correction

pubs.acs.org/est

Correction to Surface Complexation of the Zwitterionic Fluoroquinolone Antibiotic Ofloxacin to Nano-Anatase TiO_2 Photocatalyst Surfaces

Tias Paul,* Michael L. Machesky, and Timothy J. Strathmann

Environ. Sci. Technol.; **2012**, *46*, 11896−11904. DOI: 10.1021/es302097k

There was an error in the calculation of the log K values within the fitting program for the two ofloxacin (OFX) − anatase surface complexes reported in the original paper. The error arose from neglecting the fact that two out of three of the protons introduced to the 0-plane during the OFX complexation reaction leave the surface in the form of water, resulting in a single proton remaining at the 0-plane. To account for this error while maintaining the goodness of data fit, log K values for the surface complexes reported in the paper have been augmented by a value of 11.2, which is equal to 2 times the proton affinity constant (log K_H = 5.6) of the $\equiv TiOH^{-0.5}$ surface groups. The corrected surface complexation parameters for the complexes are provided in Table 1. Since agreement of the model fits with experimental data is essentially unchanged from that reported in the original paper, the interpretation of data and conclusions remain unaffected by this correction.

Table 1. Corrected Surface Complexation Parameters

OFX surface complexation reactions	logK^a	CD	Δz_0	Δz_s
$OFX^- + 4H^+ + 3 \equiv TiOH^{-0.5} \rightleftharpoons \equiv Ti_3OH_2(H - OFX)^{+1.5} + 2H_2O$	28.1 ± 0.1	−1.2	1.8	1.2
$OFX^- + 4H^+ + 3 \equiv TiOH^{-0.5} + ClO_4^- \rightleftharpoons [\equiv Ti_3OH_2(H - OFX)^{+1.5}...ClO_4^-] + 2H_2O$	28.6 ± 0.1	−1.2	1.8	0.2

[a]Uncertainty represents one standard deviation.

Published: September 15, 2014