Supplementary Material

Comparative chemometric and QSAR/SAR study of structurally unrelated substrates of a MATE efflux pump VmrA from *V. parahaemolyticus:* prediction of multidrug resistance

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CONTENTS

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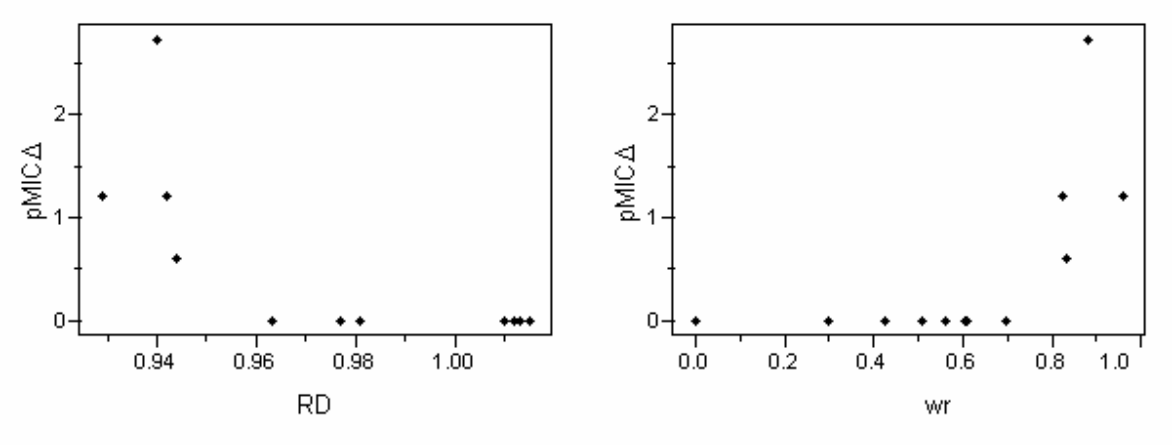

Figure A. Examples of representative pMICΔ-descriptor relations regarding VmrA resistance to heteroaromatics **1**-**4**.

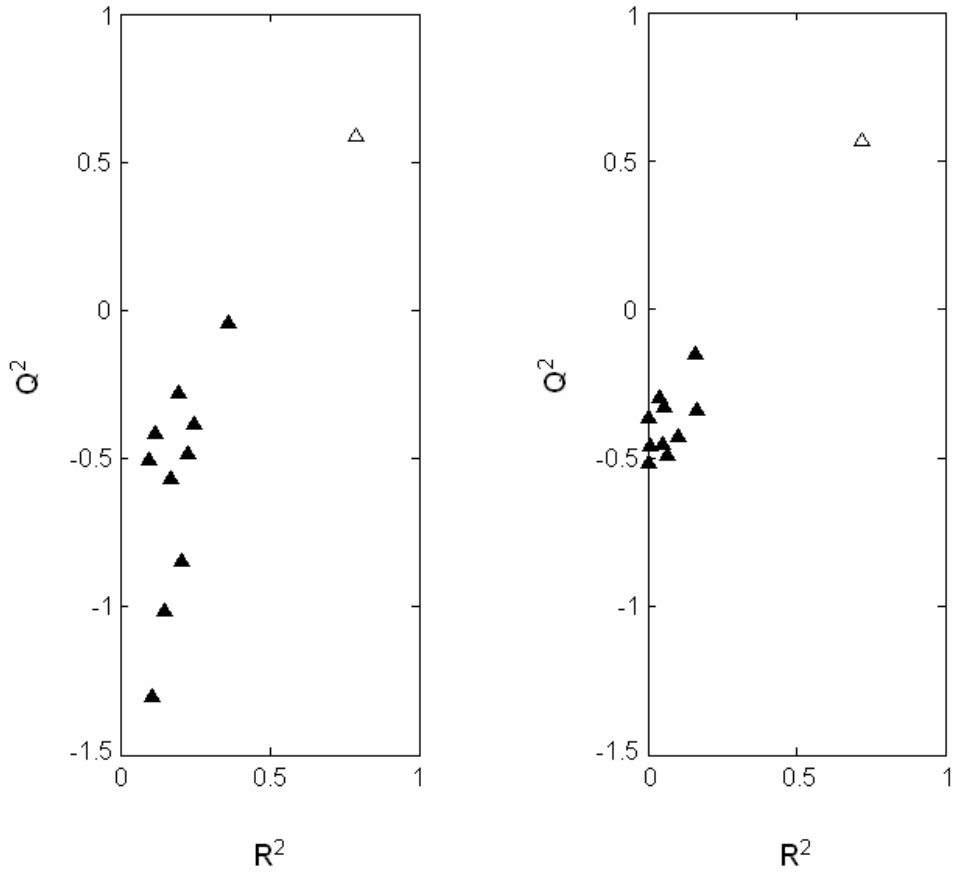

Figure B. Results of the Y-randomization tests. Left: testing the PLS model for pMIC(pVCJ6). Right: testing the PCR model for pMIC(KAM). The plots for the other two models are similar. Ten random shuffles of the Y-vectors were performed, as was recommended by Wold and Eriksson [25] and as it has become a practise in QSAR studies. Q^2 is from leave-one-out crossvalidation.

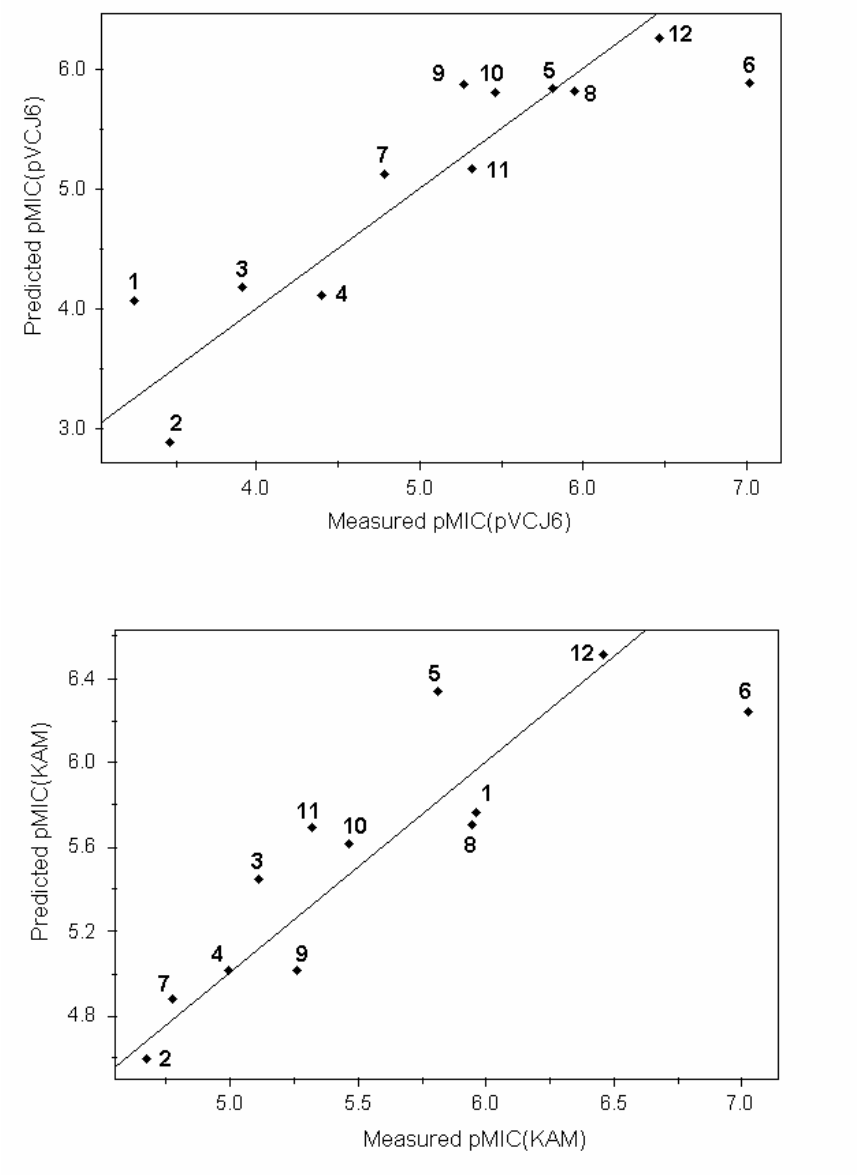

Figure C. PLS plots for biological activities pMIC(KAM) and pMIC(pVJC6).

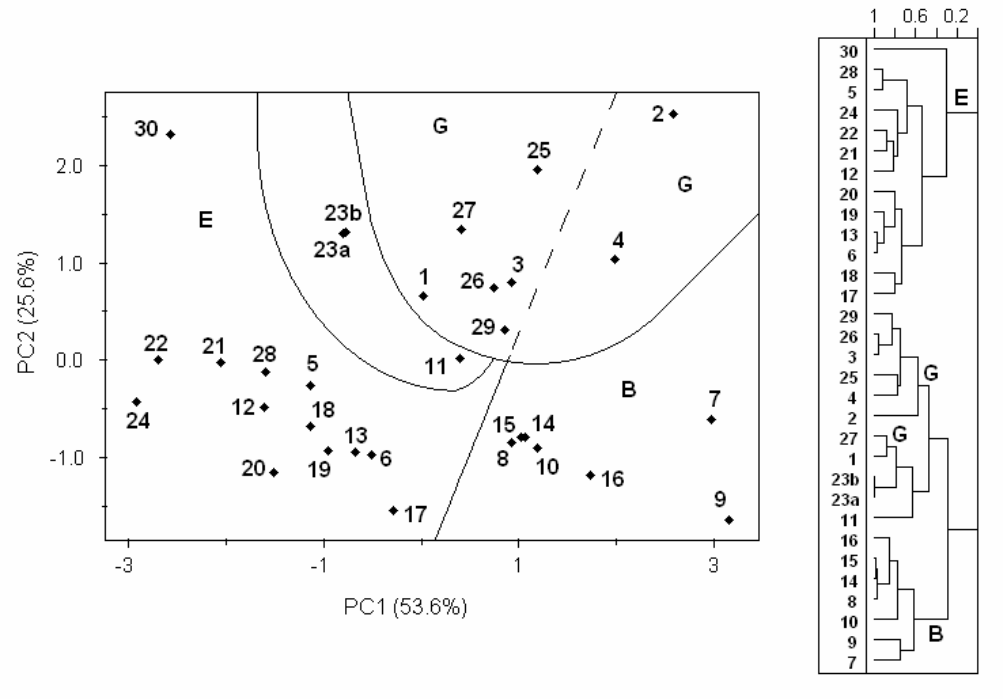

Figure D. PCA scores plot (left) and HCA dendogram of samples with complete linkage (right) related to the efflux power of the strain KAM32 of *E. coli* with respect to the training+prediction set **1**-**30**.

Comments for Figure D

Previous exploratory analysis for the prediction set (Fig. 3 top, in the text) could not recognize clearly the agents to which VmrA would be resistant: two groups of more elongated (E) and more branched (B) agents were observed. In the present analysis for the training+prediction data set relative to KAM32 (Figure D), this E-B discrimination may also be perceived, but more detailed clustering is visible. Well-defined regions of agents, assigned as G in the previous analysis (Fig. 5 left, in the text), is situated at the right top corner of the PC1-PC2 scores space. **11**, **23a** and **23b** are close to this group. Other two groups are more branched (**7**-**10**, **14**-**16**) and more linear (**5**, **6**, **12**, **13**,

17-**22**, **24**, **28**, **30**) agents to which VmrA is sensitive. This clustering is clearly shown in the corresponding HCA dendogram (Fig. C right). It is clear that the PCA-HCA analysis related to the both *E. coli* strains can provide correct VmrA resistance/sensitivity assignments for diverse agents.