

## Crystallographic studies of complexes of the pyoverdine outer membrane receptor FpvA from *Pseudomonas aeruginosa* PAO1 (Experiment 30-01-711)

*Pseudomonas aeruginosa* is an opportunistic human pathogen which infects injured, immunodeficient, or otherwise compromised patients. Under iron-limited conditions, the bacterium secretes a major siderophore: pyoverdine (Pvd). Pvd seems to play an important role in infection by competing with transferrin for iron in order to overcome the iron-withholding mechanism present in mammals. It is transported through the outer membrane of *P. aeruginosa* by FpvA. Pvd is also able to bind gallium.

During this experiment, 3 data sets were collected using one crystal of the pyoverdine outer membrane receptor from *Pseudomonas aeruginosa* bound to Ga-Pvd. The crystal was obtained from a solution containing copper.

The cell parameters are:  $a = 140.09$   $b = 235.03$   $c = 237.25$  Å,  $\beta = 101.12^\circ$  and 6 molecules are in the asymmetric unit. Since FpvA is bound to Ga-Pvd and crystallized using copper, data were collected at 3 wavelengths: 0.9797 Å, 1.1950 Å (peak of the gallium *K* edge) and 1.3788 Å (peak of the copper *K* edge). All the data were processed and scaled using XDS.

Wavelength (Å)	0.979751	1.195015	1.378807
Resolution (Å)	2.70	3.24	3.24
Number of reflections	639,603	305,774	454,137
Unique reflections	194,355	224,950	223,275
Completeness (%)	94.5	93.1	94.5
$I/\sigma_I$	7.14	4.39	6.85
Rsym (%)	14.3	13.9	11.6

The phase problem will be solved by molecular replacement using the SeMet-FpvA-Pvd atomic coordinates.