

**Supplementary Table S3: Pan3:Pan2 crystallographic data collection and refinement statistics.**

**Data collection statistics**

Wavelength (Å)	0.9763
Space group	$P2_1$
Unit cell parameters: a, b, c (Å); $\alpha$ , $\beta$ , $\gamma$ (°)	89.0, 145.3, 101.8; 90.0, 94.8, 90.0
Resolution range (outer shell in brackets; Å)	100.0 – 2.59 (2.68 – 2.59)
Unique reflections	80,131
Total observations	525,003
$\langle I / \sigma(I) \rangle$ : all (outer shell)	12.0 (1.77)
$R_{\text{p.i.m.}}$ : all (outer shell)	6.0 (66.0)
Completeness: all (outer shell) (%)	99.8 (99.7)
Multiplicity	6.5
Wilson B-factor	62.5

**Refinement statistics**

Non-hydrogen atoms	14,282
Metal ions	$4 \times \text{Mg}^{2+}$
Ligands	$4 \times \text{ATP}$
Number of water molecules	150
Bond length deviation from ideal values (Å)	0.006
Bond angle deviation from ideal values (°)	1.146
Ramachandran favoured/outliers (%)	99.4/0.0
All-atom clashscore	2.62
Reflections used in refinement	80,119
Random reflections assigned for cross-validation	4,021
$R_{\text{work}}/R_{\text{free}}$ (%)	18.3/22.1
Estimate of the coordinate error (Å)	0.3