

**Table S1: Data collection and refinement statistics. Related to Figure 2.**

Gas(R201C/C237S)	
<b>Data collection</b>	
Space group	P 21 21 21
Cell dimensions	
<i>a</i> , <i>b</i> , <i>c</i> (Å)	37.37, 85.58, 125.64
$\alpha$ , $\beta$ , $\gamma$ (°)	90, 90, 90
Resolution (Å)	62.82-1.70 (1.79-1.70) <sup>a</sup>
<i>R</i> <sub>merge</sub> , <i>R</i> <sub>meas</sub> , and <i>R</i> <sub>pim</sub>	0.082 (0.342), 0.090 (0.375), 0.035 (0.149)
<i>I</i> / $\sigma$ ( <i>I</i> )	12 (3.8)
<i>CC</i> <sub>1/2</sub>	0.997 (0.926)
Completeness (%)	98.4 (95.7)
Redundancy	6.1 (5.8)
<b>Refinement</b>	
Resolution (Å)	33.04-1.7
No. reflections	44420
<i>R</i> <sub>work</sub> / <i>R</i> <sub>free</sub>	0.1684/0.2003
No. atoms	
Protein	2807
Ligand/ion (specify/describe)	42
Water	249
<i>B</i> factors	
Protein	25.27
Ligand/ion	19.79
Water	29.88
R.m.s. deviations	
Bond lengths (Å)	0.010
Bond angles (°)	0.88

<sup>a</sup> Values in parentheses are for highest-resolution shell.