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Supporting information for article:

1.8 Å resolution crystal structure of the carbapenem intrinsic resistance protein CarF

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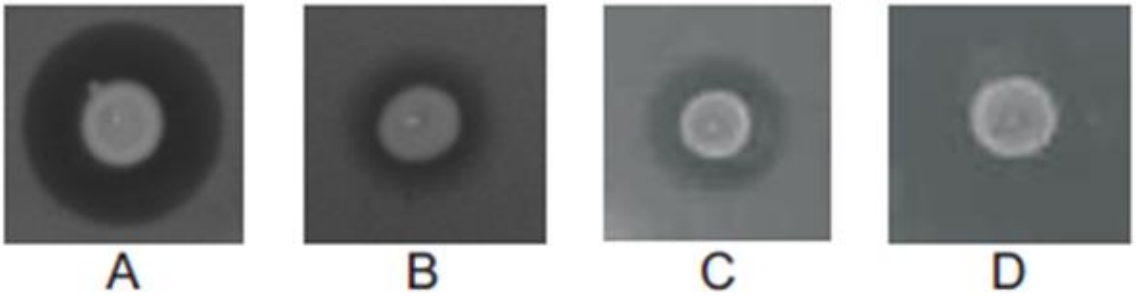

Figure S1 Overexpression of CarF$_{S.\ 39006}$ and CarG$_{S.\ 39006}$ confer partial carbapenem resistance in *E. coli* ESS carbapenem resistance bioassays. Panel A: *E. coli* ESS pQE80*oriT* (negative control, carbapenem susceptible), Panel B: *E. coli* ESS pQE80*oriT- carF*$_{S.\ 39006}$*-6His* (CarF$_{S.\ 39006}$-6His overexpression, partially carbapenem resistant); Panel C: *E. coli* ESS pQE80*oriT- carG*$_{S.\ 39006}$*-6His* (CarG$_{S.\ 39006}$-6His overexpression, partially carbapenem resistant) (Tichy *et al.*, 2014); Panel D: *S. 39006* (positive control, carbapenem resistant).

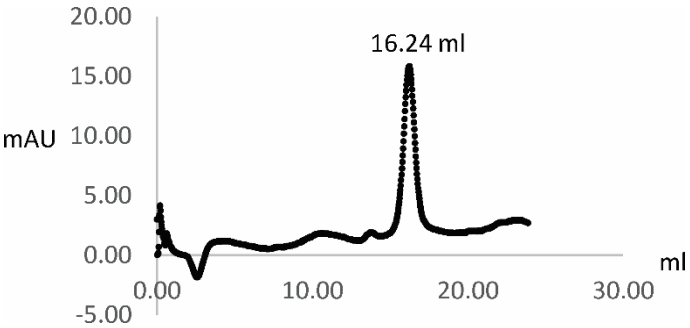

Figure S2 Analytical gel filtration of CarF$_{S.\ 39006}$. Results of analytical gel filtration of CarF$_{S.\ 39006}$. The main elution peak at 16.24 ml, corresponds to a molecular weight of approx. 25.1 kDa as calculated from a coefficient of determination obtained by producing a standard curve by running known molecular weight standards on the same column. Processed, 6xHis tagged CarF$_{S.\ 39006}$ is predicted to be 30 kDa in size.

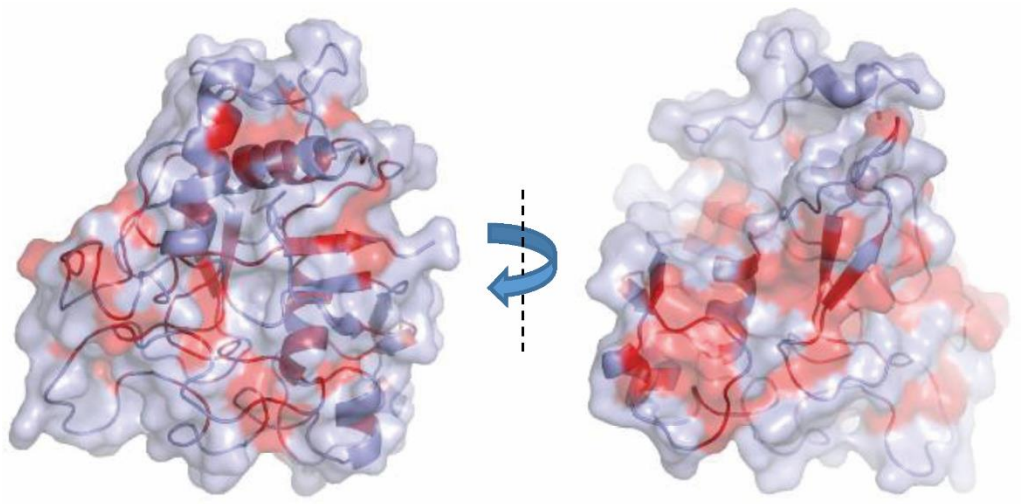

Figure S3 Conserved residues on the structure of CarF. Two orthogonal views of CarF (viewed from the same angle as Figure 1A) showing CarF as a blue coloured cartoon representation with a semi-transparent surface. Residues conserved in CarF family members (as depicted in Figure 1C) are coloured red.