

Supplementary Data for:

Xylose improves antibiotic activity of chloramphenicol and tetracycline against *K. pneumoniae* and *A. baumannii* in a murine model of skin infection

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Table S1: *A. baumannii* and *K. pneumoniae* strains used in this study and their susceptibility to tetracycline and chloramphenicol in the presence of glucose or xylose, as the sole carbon source, and the presence of the efflux pump inhibitor CCCP.

Strains	Resistance mechanism	Antibiotics	Inhibition Halo (mm)		
			Glu	Xyl	Glu+CCCP
<i>A. baumannii</i> 34702	EDR	Tet	45	50	52
<i>A. baumannii</i> 34724	EDR	Tet	38	43	43
<i>A. baumannii</i> 34938	EDR	Tet	38	44	43
<i>A. baumannii</i> 18628	EDR	Tet	37	43	44
<i>A. baumannii</i> 19328	EDR	Tet	38	42	43
<i>A. baumannii</i> 18624	EDR	Tet	36	42	42
<i>A. baumannii</i> 18395	EDR	Tet	38	43	43
<i>A. baumannii</i> 18698	EDR	Tet	37	44	44
<i>A. baumannii</i> 18684	EDR	Tet	37	42	43
<i>A. baumannii</i> 34280	EIR	Tet	45	45	44
<i>A. baumannii</i> 34562	EIR	Tet	38	38	38
<i>A. baumannii</i> 18394	EIR	Tet	37	37	37
<i>A. baumannii</i> 19381	EIR	Tet	36	37	36
<i>A. baumannii</i> 19075	EIR	Tet	38	38	38
<i>A. baumannii</i> 18775	EIR	Tet	37	38	37
<i>K. pneumoniae</i> 28296	EDR	Cam	39	49	48
<i>K. pneumoniae</i> 27935	EDR	Cam	30	37	36
<i>K. pneumoniae</i> 28295	EDR	Cam	38	47	47
<i>K. pneumoniae</i> 27698	EDR	Cam	38	47	46
<i>K. pneumoniae</i> 28115	EDR	Cam	29	38	38
<i>K. pneumoniae</i> 28532	EDR	Cam	31	38	37
<i>K. pneumoniae</i> 28106	EDR	Cam	29	36	37
<i>K. pneumoniae</i> 28558	EDR	Cam	28	37	36
<i>K. pneumoniae</i> 28552	EDR	Cam	26	35	37
<i>K. pneumoniae</i> 28155	EDR	Cam	28	38	38
<i>K. pneumoniae</i> 28341	EIR	Cam	13	15	15
<i>K. pneumoniae</i> 1705	EIR	Cam	15	15	15
<i>K. pneumoniae</i> 27665	EIR	Cam	13	13	14

EDR: Efflux-Dependent Resistance; EIR: Efflux-Independent Resistance; Tet, tetracycline; Cam, chloramphenicol.

Table S2. Inhibition haloes (measured in mm after 12 h of incubation)

Bacteria	Antibiotics	Inhibition Halo (mm)	
		Glucose	Xylose
<i>A. baumannii</i> 34702	Tetracycline	45	50
<i>K. pneumoniae</i> 28296	Chloramphenicol	39	48

Table S3. Inhibition haloes (measured in mm after 72 h of incubation)

Bacteria	Antibiotics	Inhibition Halo (mm)	
		Glucose	Xylose
<i>A. baumannii</i> 34702	Tetracycline	45	50
<i>K. pneumoniae</i> 28296	Chloramphenicol	39	48

Table S4: Susceptibility profile of *A. baumannii* and *K. pneumoniae* strains with different concentration of xylose.

Bacteria	Antibiotics	Inhibition Halo (mm)		
		Glucose	Xylose 0,2%	Xylose 2%
<i>A. baumannii</i> 34702	Tetracycline	45	50	51
<i>K. pneumoniae</i> 28296	Chloramphenicol	39	49	49

Table S5: Susceptibility profile of *A. baumannii* and *K. pneumoniae* strains in the presence of glucose, xylose and a mixture of glucose and xylose.

Bacteria	Antibiotics	Inhibition Halo (mm)		
		Glucose	Xylose	Glucose + Xylose
<i>A. baumannii</i> 34702	Tetracycline	45	50	44
<i>K. pneumoniae</i> 28296	Chloramphenicol	39	49	39

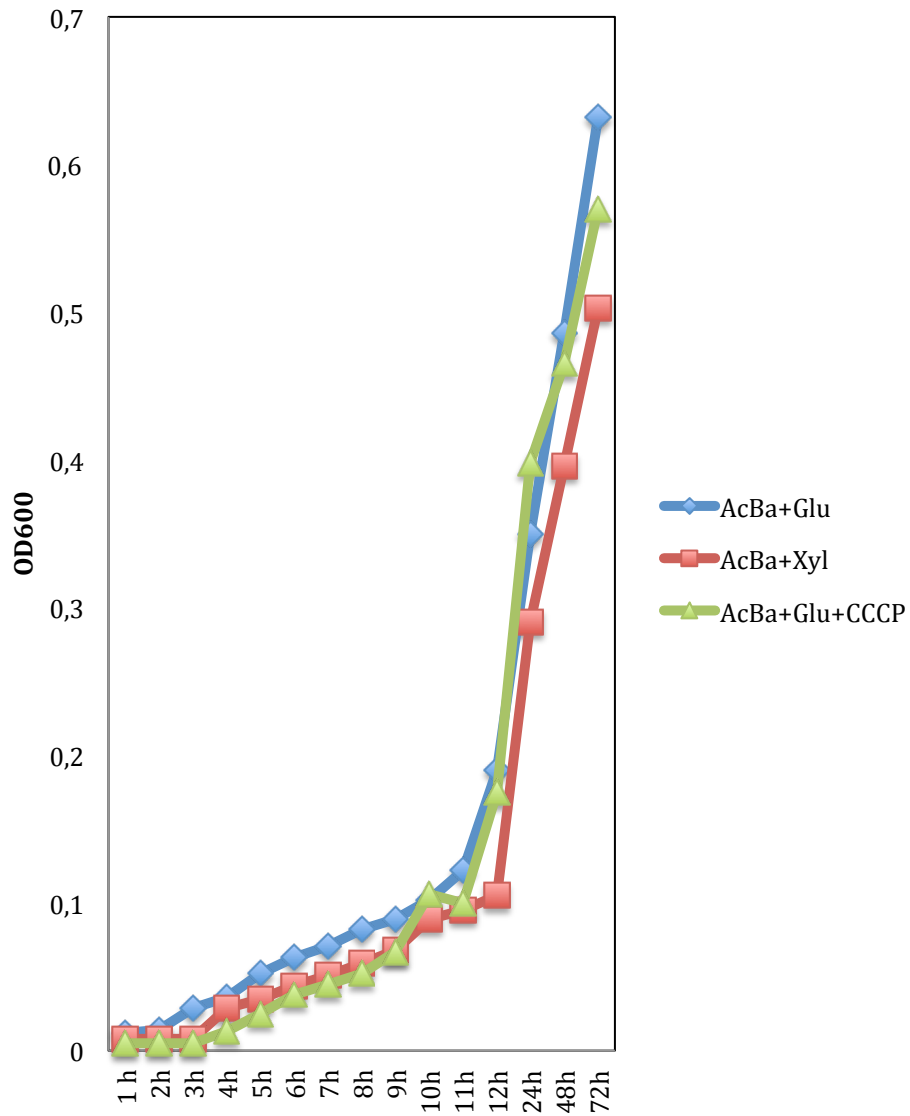


Figure S1: Growth curves for *A. baumannii* 34702 (AcBa) in the presence of glucose or xylose, as the sole carbon sources, and glucose plus CCCP.

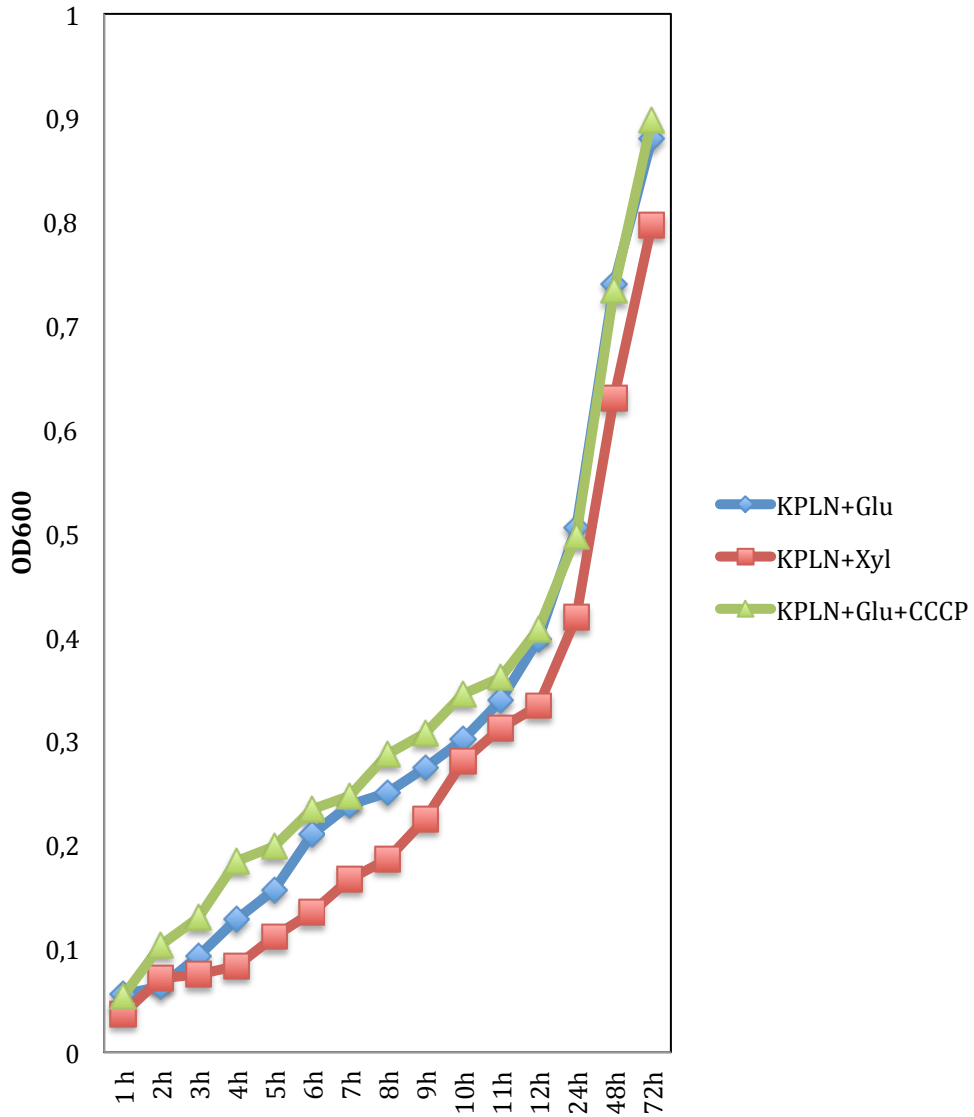


Figure S2: Growth curves for *K. pneumoniae* 28296 (KPLN) in the presence of glucose or xylose, as the sole carbon source, and glucose plus CCCP.

Highlights

1. Xylose decreases efflux-mediated resistance in multiresistant bacteria *in vitro*
2. Xylose improves antibiotics activity against multiresistant bacteria *in vivo*
3. Xylose + antibiotic formulations work efficiently to treat skin infections

Conflict of interest

None to declare