

Supplementary Appendix

Supplementary Table 1: Viable plating results for selected two-antibiotic combinations against 42 CR-GNB

Antibiotic combinations	No. of inhibitory combinations (%) based on viable plating			
	All CR-GNB	<i>A. baumannii</i>	<i>P. aeruginosa</i>	<i>K. pneumoniae</i>
	(n = 42)	(n = 14)	(n = 14)	(n = 14)
Polymyxin B-containing combinations				
Polymyxin B + amikacin	34 (81.0)	11 (78.6)	13 (92.9)	10 (71.4)
Polymyxin B + cefepime	31 (73.8)	13 (92.9)	10 (71.4)	8 (57.1)
Polymyxin B + meropenem	27 (64.3)	9 (64.3)	8 (57.1)	10 (71.4)
Polymyxin B + rifampicin	34 (81.0)	13 (92.9)	8 (57.1)	13 (92.9)
Polymyxin B + tigecycline	32 (76.2)	12 (85.7)	6 (42.9)	14 (100)
Non-polymyxin B-containing combinations				
Amikacin + meropenem	19 (45.3)	1 (7.1)	11 (78.6)	7 (50.0)
Amikacin + levofloxacin	21 (50.0)	3 (21.4)	11 (78.6)	7 (50.0)
Amikacin + tigecycline	28 (66.7)	7 (50.0)	9 (64.3)	12 (85.7)
Cefepime + meropenem	20 (47.6)	6 (42.8)	9 (64.3)	5 (35.7)
Meropenem + tigecycline	29 (69.0)	11 (78.6)	6 (42.8)	12 (85.7)

Supplementary Table 2: No. of inhibitory/non-inhibitory combinations based on viable count and sensitivity, specificity and unweighted accuracy of T_{RLU} to discriminate between inhibitory/non-inhibitory combinations at 6h and 24h against 14 CR *A. baumannii*

Observations against <i>A. baumannii</i>	No. of inhibitory/non-inhibitory specimens based on viable count (%)		Area under ROC	T_{RLU}	Accuracy of the ATP bioluminescence assay (%)			Comparison of 6h and 24h AUROC curves
	Inhibitory	Non-inhibitory			Sensitivity	Specificity	Unweighted accuracy	p-value
	All antibiotics (no. of antibiotic-isolate observations = 1,036)							
6h ATP bioluminescence	522 (50.4)	514 (49.6)	0.78	-1.03	76.2	71.2	73.7	<0.01
24h ATP bioluminescence			0.69	-0.20	51.2	76.3	63.8	
All carbapenem-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 378)								
6h ATP bioluminescence	176 (46.6)	202 (53.4)	0.78	-0.98	82.0	66.9	74.5	0.01
24h ATP bioluminescence			0.70	-0.28	55.6	79.8	67.7	
All polymyxin B-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	114 (74.0)	40 (26.0)	0.65	-1.01	86.7	54.2	70.5	0.23
24h ATP bioluminescence			0.58	-0.31	69.2	60.4	64.8	
All amikacin-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	64 (41.6)	90 (58.4)	0.75	-1.27	68.8	69.2	69.0	0.25
24h ATP bioluminescence			0.80	-0.20	67.2	85.6	76.4	

Supplementary Table 3: No. of inhibitory/non-inhibitory combinations based on viable count and sensitivity, specificity and unweighted accuracy of T_{RLU} to discriminate between inhibitory/non-inhibitory combinations at 6h and 24h against 14 CR *P. aeruginosa*

Observations against <i>P. aeruginosa</i>	No. of inhibitory/non-inhibitory specimens based on viable count (%)		Area under ROC	T_{RLU}	Accuracy of the ATP bioluminescence assay (%)			Comparison of 6h and 24h AUROC curves
	Inhibitory	Non-inhibitory			Sensitivity	Specificity	Unweighted accuracy	p-value
	All antibiotics (no. of antibiotic-isolate observations = 1,036)							
6h ATP bioluminescence	477 (46.0)	559 (54.0)	0.84	-1.26	86.2	73.5	79.9	<0.01
24h ATP bioluminescence			0.71	-0.36	66.7	71.7	69.2	
All carbapenem-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 378)								
6h ATP bioluminescence	190 (50.3)	188 (49.7)	0.88	-0.81	96.5	75.3	85.9	<0.01
24h ATP bioluminescence			0.72	-0.22	70.2	77.2	73.7	
All polymyxin B-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	94 (61.0)	60 (39.0)	0.62	-2.73	72.7	46.4	60.0	<0.01
24h ATP bioluminescence			0.46	-0.68	54.6	55.1	54.9	
All amikacin-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	134 (87.0)	20 (13.0)	0.94	-1.91	92.1	87.0	90.0	0.07
24h ATP bioluminescence			0.87	-0.1	94.5	69.6	82.1	

Supplementary Table 4: No. of inhibitory/non-inhibitory combinations based on viable count and sensitivity, specificity and unweighted accuracy of T_{RLU} to discriminate between inhibitory/non-inhibitory combinations at 6h and 24h against 14 CR *K. pneumoniae*

Observations against <i>K. pneumoniae</i>	No. of inhibitory/non-inhibitory specimens based on viable count (%)		Area under ROC	T _{RLU}	Accuracy of the ATP bioluminescence assay (%)			Comparison of 6h and 24h AUROC curves
	Inhibitory	Non-inhibitory			Sensitivity	Specificity	Unweighted accuracy	p-value
	All antibiotics (no. of antibiotic-isolate observations = 1,036)							
6h ATP bioluminescence	479 (46.2)	557 (55.7)	0.89	-1.43	85.8	79.5	82.7	<0.01
24h ATP bioluminescence			0.81	-0.72	86.0	78.6	82.3	
All carbapenem-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 378)								
6h ATP bioluminescence	189 (50.0)	189 (50.0)	0.90	-1.94	78.3	87.1	82.7	<0.01
24h ATP bioluminescence			0.75	-0.76	89.2	65.9	77.6	
All polymyxin B-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	110 (71.4)	44 (28.6)	0.81	-1.15	81.2	80.4	80.8	0.51
24h ATP bioluminescence			0.78	-0.74	88.0	66.7	77.4	
All amikacin-containing two-antibiotic combinations (no. of antibiotic-isolate observations = 154)								
6h ATP bioluminescence	89 (57.8)	65 (42.2)	0.90	-1.86	82.3	90.3	86.3	0.02
24h ATP bioluminescence			0.83	-0.23	80.2	86.1	83.2	