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Table 1
Compounds of Formula A-11

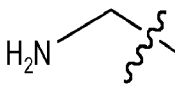
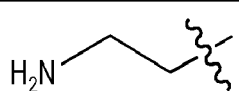
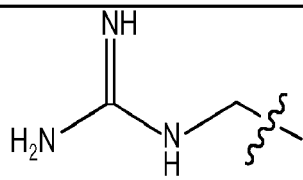
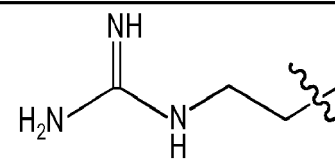
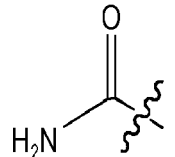
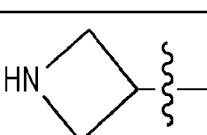
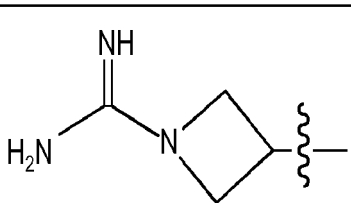
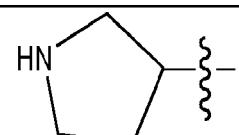
Cmpd. No.	X	R ¹	R
701	O	H	 -OSO ₃ H
702	O		 -OSO ₃ H
703	O		 -OSO ₃ H
704	O		 -OSO ₃ H
705	O		 -OSO ₃ H
706	O		 -OSO ₃ H
707	O	-NH ₂	 -OSO ₃ H
708	O		 -OSO ₃ H
709	O		 -OSO ₃ H
710	O		 -OSO ₃ H

Fig. 1A

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Table 1
Compounds of Formula A-11

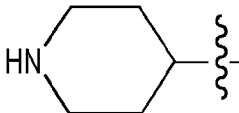
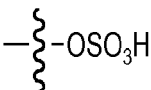
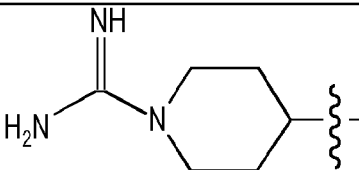
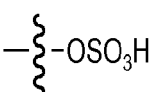
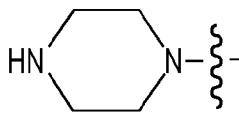
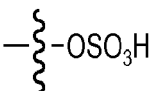
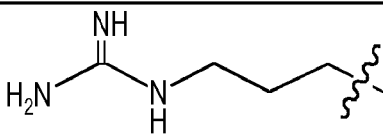
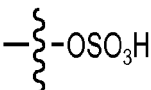
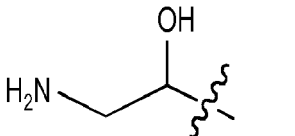
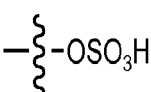
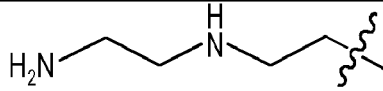
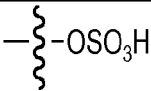
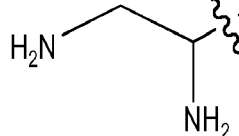
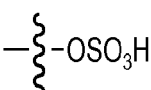
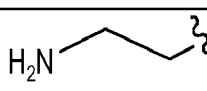
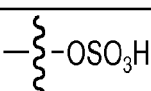
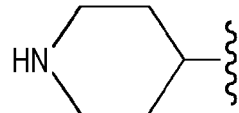
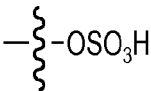
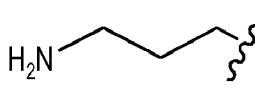
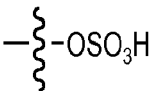
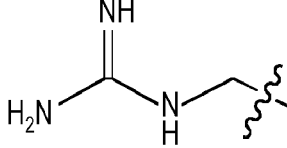
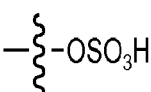
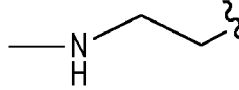
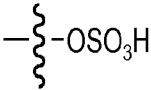
Cmpd. No.	X	R ¹	R
711	O		
712	O		
713	O		
714	O		
715	O		
716	O		
717	O		
718	S		
719	S		
720	O		
721	S		
722	O		

Fig. 1B

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Table 1
Compounds of Formula A-11

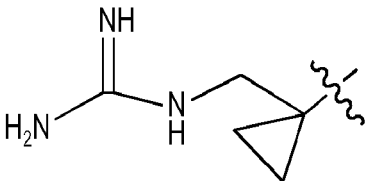
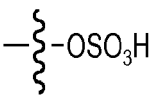
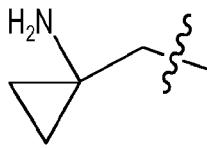
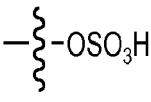
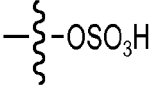
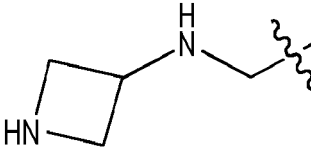
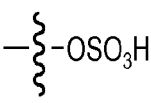
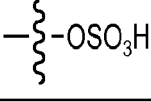
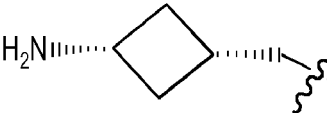
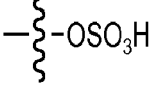
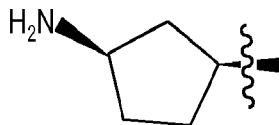
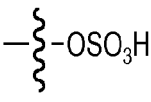
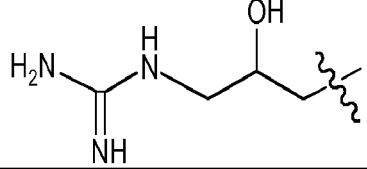
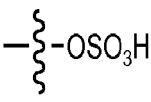
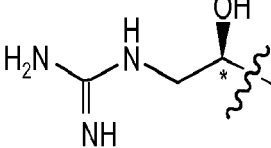
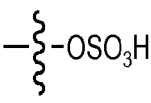
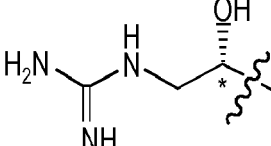
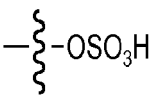
Cmpd. No.	X	R ¹	R
723	O		
724	O		
725	O		
726	O		
727	O		
728	O		
729	O		
730	O		
731	O		
732	O		

Fig. 1C

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Table 1
Compounds of Formula A-11

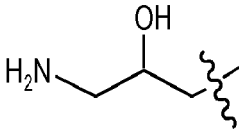
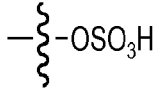
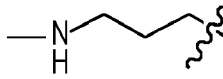
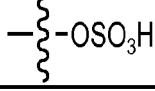
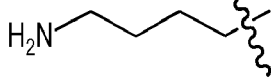
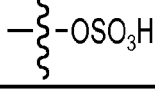
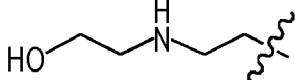
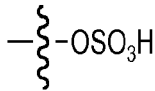
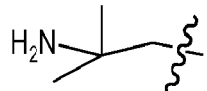
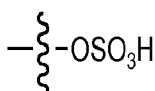
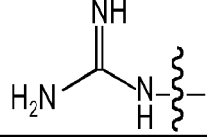
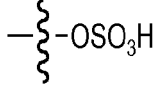
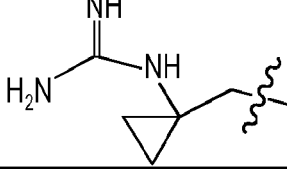
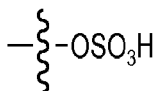
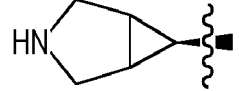
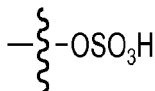
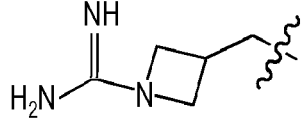
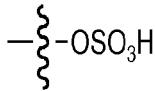
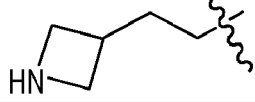
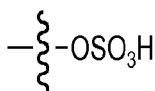
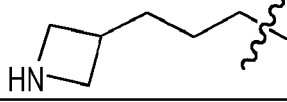
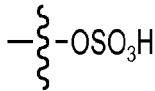
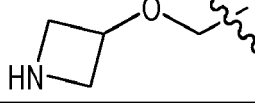
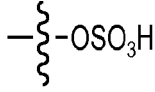
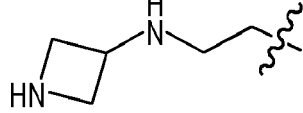
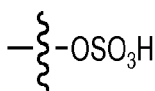
Cmpd. No.	X	R ¹	R
733	O		
734	O		
735	O		
736	O		
737	O		
738	O		
739	O		
740	O		
741	O		
742	O		
743	O		
744	O		
745	O		

Fig. 1D

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Table 1
Compounds of Formula A-11

Cmpd. No.	X	R ¹	R
746	0		
747	0		
748	0		
749	0		
750	0		
751	0		
752	0		
753	0		
754	0		
755	0		
756	0		

Fig. 1E

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Table 1
Compounds of Formula A-11

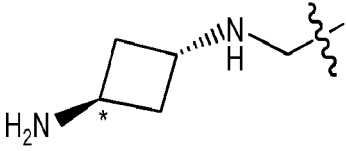
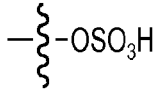
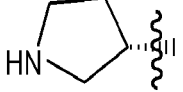
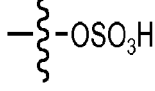
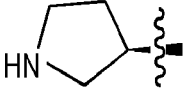
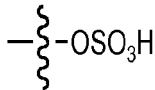
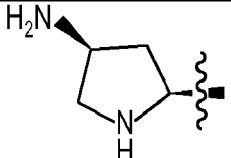
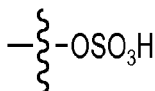
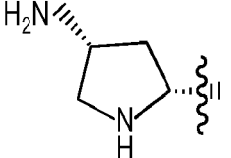
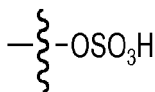
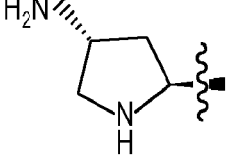
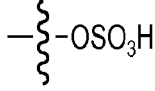
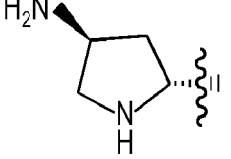
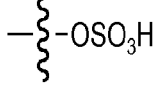
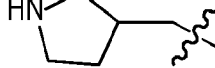
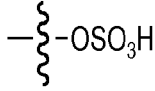
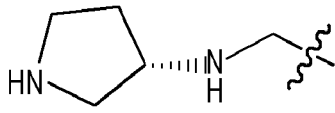
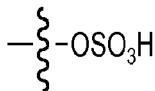
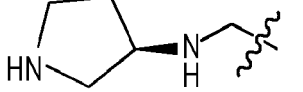
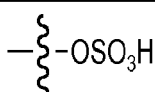
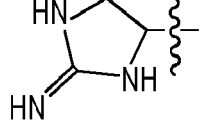
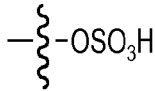
Cmpd. No.	X	R ¹	R
757	O		
758	O		
759	O		
760	O		
761	O		
762	O		
763	O		
764	O		
765	O		
766	O		
767	O		

Fig. 1F

SUBSTITUTE SHEET (RULE 26)

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Table 1
Compounds of Formula A-11

Cmpd. No.	X	R ¹	R
768	O		
769	O		
770	O		
771	O		
772	O		
773	O		
774	O		
775	O		
776	O		
777	O		
778	O		
779	O		
780	O		

Fig. 1G

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Table 1
Compounds of Formula A-11

Cmpd. No.	X	R ¹	R
781	O		
782	O		
783	S		
784	S		
785	S		
786	S		
787	O		
788	O		
789	O		
790	O		
791	O		
792	O		

Fig. 1H

SUBSTITUTE SHEET (RULE 26)

Table 1
Compounds of Formula A-11

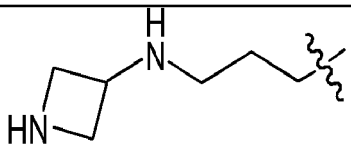
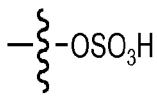
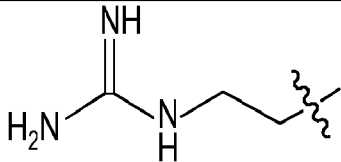
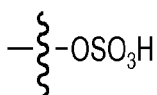
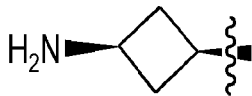
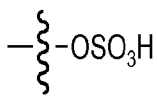
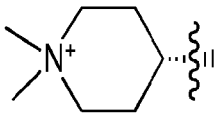
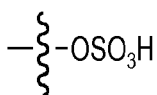
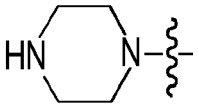
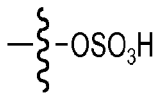
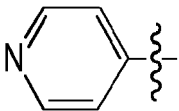
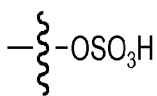
Cmpd. No.	X	R ¹	R
793	O		
794	S		
795	S		
796	S		
797	S		
798	S		

Fig. 11

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Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	701	702	703	704	705	707	708	709	710	711	712	713	719	721
Eco.2806	KPC-2	isogenic	E	B	A	B	B	C	A	B	B	A	B	B	B	B	B	A
Pac.2808	KPC-2	clinical	E	C	C	C	B	D	B	C	B	C	C	B	B	C	C	B
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	C	B	D	B	C	B	C	B	C	C	C	C	B
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	A	B	A	C	A	B	A	A	B	A	A	B	A	B
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	B	A	C	A	B	B	B	B	B	B	B	B	B
Kpn.571	TEM-26	clinical	D	AA	A	A	A	A	A	A	A	A	A	A	A	B	A	A
Pac.2885	AmpC	clinical	B	A	A	B	A	B	AA	B	A	A	A	A	B	B	A	A
Cfr.568	AmpC	clinical	E	C	B	C	C	D	B	C	C	C	C	C	C	C	C	B
Ecl.569	AmpC	clinical	E	B	A	A	B	B	B	A	B	A	A	B	B	B	A	A
Kpn.2914	KPC-2, SHV+	clinical	D	B	B	B	B	C	B	B	B	B	B	B	B	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	B	A	A	A	B	A	A	A	B	A	A	A	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	B	A	A	A	A	A	A	A	A	A	B	A	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	B	C	B	D	B	C	B	B	B	C	C	C	C	B
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	B	B	C	B	B	B	B	C	B	B	B	B	B
Eco.2711	KPC	clinical	D	A	A	A	A	B	A	A	A	A	A	A	A	B	A	A
Eco.2781	KPC-2, TEM+	clinical	C	AA	A	A	A	A	A	A	A	A	A	A	A	A	A	AA
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	B	B	C	B	B	B	B	B	B	C	B	C	B
Pae.2757	AmpC over-exprn	clinical	C	B	B	B	B	B	A	B	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	B	B	B	C	A	B	B	B	B	B	B	B	B	A
Eco.2843	DHA-1	isogenic	E	A	A	B	A	A	A	B	A	A	A	B	A	A	A	AA
Eco.2491	CMY-2	clinical	D	A	A	A	A	A	A	A	A	B	A	A	A	A	B	A
Eco.2902	Aba-ADC-33	isogenic	E	B	B	B	B	C	B	C	B	B	B	B	B	B	A	A
Eco.2840	KPC4	isogenic	E	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D
Eco.2845	OXA-15	isogenic	E	D	B	B	B	D	B	B	B	C	C	B	B	B	C	B
MIC90			E	C	B	C	B	D	B	C	B	C	C	C	C	C	C	B
MIC50			E	B	B	B	B	C	A	B	B	B	B	B	B	B	B	A

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

Fig. 2A

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Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	730	731	732	733	734	735	736	737	738	739	740	741	742	743
Eco.2806	KPC-2	isogenic	E	B	A	B	A	B	A	B	B	B	B	B	B	A	B	A
Pac.2808	KPC-2	clinical	E	C	C	B	A	C	C	C	C	C	C	C	C	B	B	C
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	B	B	C	C	B	C	C	C	C	B	C	C	C
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	B	A	A	B	AA	B	B	B	A	B	A	A	B	A
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	A	A	B	B	B	B	B	B	C	B	B	B	B
Kpn.571	TEM-26	clinical	D	AA	A	A	AA	B	A	A	B	A	AA	A	A	A	A	A
Pac.2885	AmpC	clinical	B	A	A	A	A	B	B	A	B	B	A	B	A	A	A	A
Cfr.568	AmpC	clinical	E	C	B	B	B	C	C	B	C	C	B	B	C	B	B	B
Ecl.569	AmpC	clinical	E	B	B	A	A	C	A	B	B	A	A	B	A	B	A	A
Kpn.2914	KPC-2, SHV+	clinical	D	B	C	A	B	C	B	B	B	B	A	B	B	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	A	A	B	AA	A	B	A	AA	A	A	A	A	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	B	B	C	C	C	C	B	B	C	B	C	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	B	B	C	B	B	C	C	B	C	B	B	B	C
Eco.2711	KPC	clinical	D	A	A	A	A	B	AA	A	A	A	A	A	A	A	A	A
Eco.2781	KPC-2, TEM+	clinical	C	AA	AA	A	A	B	AA	A	A	A	AA	B	A	A	A	A
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	B	B	C	B	B	E	B	B	B	B	B	B	B
Pae.2757	AmpC over-exprn	clinical	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	C	B	A	C	B	B	C	B	B	B	B	B	B	B
Eco.2843	DHA-1	isogenic	E	A	A	A	A	A	AA	A	B	A	A	A	A	A	A	A
Eco.2491	CMY-2	clinical	D	A	A	A	A	B	A	A	A	A	A	A	A	A	A	A
Eco.2902	Aba-ADC-33	isogenic	E	B	C	B	B	D	B	B	B	B	A	C	B	B	B	B
Eco.2840	KPC4	isogenic	E	D	D	D	D	E	C	D	E	D	C	D	D	D	D	C
Eco.2845	OXA-15	isogenic	E	D	C	C	B	C	B	C	C	C	C	C	C	C	C	C
MIC90			E	C	C	B	B	C	C	B	C	C	B	C	B	B	B	C
MIC50			E	B	B	B	A	B	B	B	B	B	A	B	B	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

Fig. 2B

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Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	744	745	746	747	748	749	750	751	752	753	754	755	756	757
Eco.2806	KPC-2	isogenic	E	B	B	A	B	B	B	B	B	B	A	B	B	B	B	B
Pac.2808	KPC-2	clinical	E	C	C	C	C	C	C	B	C	C	C	C	C	B	C	C
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	B	B	A	B	A	A	B	B	B	A	B	B	B	B
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	B	B	A	B	B	B	B	B	B	B	B	B	B
Kpn.571	TEM-26	clinical	D	AA	A	A	A	A	A	A	A	A	A	A	A	A	A	B
Pac.2885	AmpC	clinical	B	A	A	A	A	A	A	A	B	A	A	A	A	A	A	B
Cfr.568	AmpC	clinical	E	C	C	C	C	B	C	C	C	C	B	C	B	B	B	C
Ecl.569	AmpC	clinical	E	B	A	A	B	A	A	A	B	B	A	B	B	A	B	B
Kpn.2914	KPC-2, SHV+	clinical	D	B	B	C	C	C	B	B	C	B	B	B	B	B	C	C
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	B	A	A	A	A	A	A	A	A	A	A	B	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	C	B	C	C	B	C	B	C	C	C	B	C	C
Eco.2711	KPC	clinical	D	A	A	B	A	A	B	A	A	A	A	A	A	A	A	B
Eco.2781	KPC-2, TEM+	clinical	C	AA	AA	A	A	A	AA	A	A	A	A	AA	A	AA	A	A
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	C	A	C	B	B	E	C	B	B	B	B	C	D
Pae.2757	AmpC over-expr	clinical	C	B	B	B	AA	B	B	B	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	B	C	B	B	B	B	C	B	B	B	B	B	C	C
Eco.2843	DHA-1	isogenic	E	A	A	B	A	A	A	A	B	A	A	A	A	A	A	B
Eco.2491	CMY-2	clinical	D	A	A	A	B	B	B	A	B	A	A	A	A	A	A	A
Eco.2902	Aba-ADC-33	isogenic	E	B	C	C	B	C	B	C	C	C	C	B	C	C	C	C
Eco.2840	KPC4	isogenic	E	D	D	E	D	D	D	C	D	D	D	C	D	D	D	E
Eco.2845	OXA-15	isogenic	E	D	C	D	C	C	C	C	C	C	C	C	C	C	C	D
MIC90			E	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
MIC50			E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL**Fig. 2C**

Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	758	759	760	761	762	763	764	765	766	767	768	769	770	771
Eco.2806	KPC-2	isogenic	E	B	B	B	B	B	A	B	B	B	B	A	A	B	B	B
Pac.2808	KPC-2	clinical	E	C	C	B	B	B	C	D	B	C	B	B	B	C	C	C
Kpn.2478	KPC-3, TEM+	clinical	E	C	B	C	C	C	C	D	C	C	C	C	B	C	C	C
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	B	B	B	B	B	B	B	A	B	A	A	B	B	B
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	B	A	B	B	B	C	B	B	B	B	B	B	B
Kpn.571	TEM-26	clinical	D	AA	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Pac.2885	AmpC	clinical	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Cfr.568	AmpC	clinical	E	C	C	C	B	B	C	C	C	B	B	C	B	C	C	C
Ecl.569	AmpC	clinical	E	B	A	A	B	B	B	B	A	A	B	C	B	B	B	B
Kpn.2914	KPC-2, SHV+	clinical	D	B	B	B	B	C	C	C	B	B	B	B	B	C	C	C
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	C	C	C	C	D	C	C	C	C	C	C	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	C	B	B	B	C	C	B	B	C	B	B	C	B	C
Eco.2711	KPC	clinical	D	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B
Eco.2781	KPC-2, TEM+	clinical	C	AA	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	B	B	B	C	E	B	B	B	C	B	B	D	C
Pae.2757	AmpC over-expn	clinical	C	B	B	B	B	B	B	C	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	B	B	B	B	C	B	B	B	B	B	B	C	B	B
Eco.2843	DHA-1	isogenic	E	A	A	A	A	A	A	B	A	A	A	A	A	A	A	A
Eco.2491	CMY-2	clinical	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Eco.2902	Aba-ADC-33	isogenic	E	B	B	B	B	C	B	C	B	C	B	C	B	C	B	B
Eco.2840	KPC4	isogenic	E	D	E	D	D	D	E	D	D	D	D	D	D	D	D	D
Eco.2845	OXA-15	isogenic	E	D	C	C	C	C	C	C	C	C	C	D	B	C	C	C
MIC90			E	C	C	C	B	C	C	C	C	C	C	C	B	C	C	C
MIC50			E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

Fig. 2D

Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786
Eco.2806	KPC-2	isogenic	E	B	B	B	B	A	A	B	B	A	B	B	B	B	B	B	B
Pac.2808	KPC-2	clinical	E	C	C	C	C	D	C	C	C	C	C	C	B	C	C	C	C
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	C	C	C	C	C	C	C	D	C	C	C	C	C	C
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	B	B	A	B	A	B	B	B	B	C	A	B	B	B	B
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	B	B	D	A	B	B	B	B	B	B	B	B	C	B
Kpn.571	TEM-26	clinical	D	AA	A	B	A	B	A	A	B	A	A	A	B	A	A	B	A
Pac.2885	AmpC	clinical	B	A	A	B	A	B	A	A	B	B	B	A	A	A	A	A	B
Cfr.568	AmpC	clinical	E	C	C	C	B	C	C	B	C	B	C	C	B	C	C	C	C
Ecl.569	AmpC	clinical	E	B	B	A	A	D	B	A	B	A	A	A	A	A	B	B	B
Kpn.2914	KPC-2, SHV+	clinical	D	B	B	B	B	D	B	B	C	B	C	C	A	B	B	C	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	B	A	C	A	A	A	A	B	B	A	B	A	A	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	B	B	A	B	A	A	B	A	B	A	A	A	A	A	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	D	C	D	C	C	C	B	D	D	B	C	C	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	C	C	C	D	B	C	C	B	C	C	B	B	B	C	B
Eco.2711	KPC	clinical	D	A	A	B	A	B	A	A	B	B	A	A	B	A	A	A	A
Eco.2781	KPC-2, TEM+	clinical	C	AA	AA	A	A	B	A	A	A	A	A	A	AA	A	A	A	A
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	C	D	C	B	B	C	D	B	E	D	B	C	B	D	C
Pae.2757	AmpC over-expr	clinical	C	B	B	B	B	C	B	B	C	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	B	C	C	D	B	B	C	C	C	B	B	B	B	B	B
Eco.2843	DHA-1	isogenic	E	A	A	B	A	D	A	A	B	A	B	B	A	A	A	A	A
Eco.2491	CMY-2	clinical	D	A	A	B	A	B	A	A	A	B	A	A	A	A	A	A	A
Eco.2902	Aba-ADC-33	isogenic	E	B	C	C	C	D	C	C	C	B	B	B	C	B	B	B	B
Eco.2840	KPC4	isogenic	E	D	D	D	D	E	D	D	E	D	E	D	C	D	D	D	D
Eco.2845	OXA-15	isogenic	E	D	C	C	C	D	C	C	C	C	C	C	C	C	C	D	D
MIC90			E	C	C	C	C	D	C	C	C	C	D	C	B	C	C	C	C
MIC50			E	B	B	B	B	C	B	B	B	B	B	B	B	B	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

Fig. 2E

Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane
Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	792	793	794	795	796	797	798	722	723	724	725	726	727	728	729
Eco.2806	KPC-2	isogenic	E	B	B	B	B	B	B	B	B	B	B	A	B	B	A	A	A
Pac.2808	KPC-2	clinical	E	C	D	D	B	C	C	D	B	C	C	C	B	B	B	C	C
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	D	B	C	D	D	C	B	B	C	C	C	B	B	B
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	A	B	A	B	B	B	B	A	B	A	B	B	A	A	A
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	C	A	B	C	B	B	A	B	B	B	B	A	A	B
Kpn.571	TEM-26	clinical	D	AA	A	B	AA	A	B	A	B	A	A	A	A	A	A	AA	A
Pac.2885	AmpC	clinical	B	A	B	B	A	A	A	A	A	A	A	A	A	A	A	A	B
Cfr.568	AmpC	clinical	E	C	B	C	B	C	C	B	C	B	C	B	C	C	B	B	B
Ecl.569	AmpC	clinical	E	B	B	C	A	A	B	A	C	B	A	A	B	B	A	A	A
Kpn.2914	KPC-2, SHV+	clinical	D	B	C	C	A	B	C	C	B	B	B	B	B	B	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	B	A	B	B	B	B	A	A	A	A	A	A	A	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	B	A	A	B	B	A	A	A	A	A	A	A	A	A
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	D	B	C	C	D	C	B	B	B	C	C	B	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	C	C	A	B	C	C	C	B	B	B	B	C	B	B	B
Eco.2711	KPC	clinical	D	A	A	B	A	A	A	A	B	A	A	A	A	A	A	A	A
Eco.2781	KPC-2, TEM+	clinical	C	AA	A	A	AA	A	A	A	A	A	A	A	AA	A	A	AA	A
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	C	D	B	C	D	C	D	B	B	B	C	C	B	B	B
Pae.2757	AmpC over-expn	clinical	C	B	B	C	B	B	B	B	C	B	A	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	C	D	A	B	D	C	B	C	A	B	B	B	B	B	B
Eco.2843	DHA-1	isogenic	E	A	A	C	A	A	B	A	A	A	AA	A	A	B	A	A	A
Eco.2491	CMY-2	clinical	D	A	A	A	A	A	A	A	B	A	A	A	A	B	A	B	A
Eco.2902	Aba-ADC-33	isogenic	E	B	C	C	B	B	C	B	C	C	A	B	C	C	B	C	B
Eco.2840	KPC4	isogenic	E	D	D	E	D	D	E	E	D	D	D	D	D	D	D	D	D
Eco.2845	OXA-15	isogenic	E	D	C	D	C	C	D	C	D	C	B	B	C	C	C	C	B
MIC90			E	C	C	D	B	C	D	D	C	C	B	B	C	C	B	C	B
MIC50			E	B	B	C	A	B	B	B	B	B	A	A	B	B	B	A	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

Fig. 2F

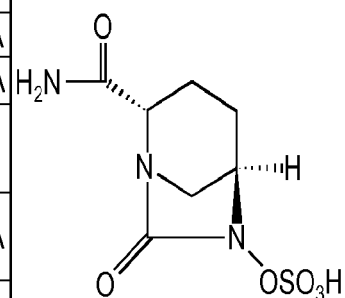
Table II: Standard BLI Potentiation MIC Assay in Combination with Ceftolozane Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	706	714	715	716	717	718	720
Eco.2806	KPC-2	isogenic	E	B	B	B	B	B	B	B	A
Pac.2808	KPC-2	clinical	E	C	C	B	B	C	C	C	B
Kpn.2478	KPC-3, TEM+	clinical	E	C	C	B	C	C	C	C	AA
Kpn.2490	KPC-3, SHV+, TEM+	clinical	E	B	A	A	B	B	B	B	AA
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	A	B	B	B	B	B
Kpn.571	TEM-26	clinical	D	AA	AA	A	A	A	A	A	AA
Pac.2885	AmpC	clinical	B	A	A	A	A	A	A	A	A
Cfr.568	AmpC	clinical	E	C	B	B	B	B	C	B	A
Ecl.569	AmpC	clinical	E	B	A	A	A	A	B	A	A
Kpn.2914	KPC-2, SHV+	clinical	D	B	A	A	B	B	B	B	A
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	A	A	A	B	A	AA
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	AA	A	A	A	A	AA
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	B	B	C	C	C	C	B
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	B	B	C	C	C	AA
Eco.2711	KPC	clinical	D	A	A	A	A	A	A	A	AA
Eco.2781	KPC-2, TEM+	clinical	C	AA	AA	AA	AA	A	A	AA	AA
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	C	B	B	C	B	A
Pae.2757	AmpC over-exprn	clinical	C	B	B	B	B	B	B	B	B
Pae.2863	AmpC de-repress	clinical	C	B	B	C	B	B	C	B	B
Eco.2843	DHA-1	isogenic	E	A	A	A	B	B	A	A	AA
Eco.2491	CMY-2	clinical	D	A	A	A	A	A	A	A	AA
Eco.2902	Aba-ADC-33	isogenic	E	B	A	B	C	C	C	B	A
Eco.2840	KPC4	isogenic	E	D	D	D	D	D	D	E	C
Eco.2845	OXA-15	isogenic	E	D	C	C	C	C	D	D	B
MIC90			E	C	B	B	C	C	C	C	B
MIC50			E	B	A	A	B	B	B	B	A

Eco is *Escherichia coli*,
Kpn is *Klebsiella pneumoniae*,

Pae is *Pseudomonas aeruginosa*;

CCC is comparator compound



AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL;
D = 16-32 μ g/mL; E $\geq$ 64 μ g/mL

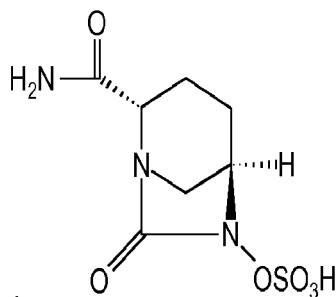
Fig. 2G

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

				COMPOUNDS																	
β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	CCC	701	702	703	704	705	706	707	708	709	710	711	712	713	719	720	721	
none	isogenic	Eco	none	D	F	E	F	F	F	F	F	F	F	F	F	F	F	F	D	F	
KPC-2	isogenic	Eco	CXA-101	B	A	A	A	C	A	A	B	A	A	A	A	A	B	B	B	A	
OXA-15	isogenic	Eco	CXA-101	D	B	C	C	D	C	B	C	C	C	C	C	C	C	B	B	C	
CTX-M-15	isogenic	Eco	CXA-101	A	A	A	A	B	A	A	A	B	B	B	B	B	A	C	A	B	
SHV-12	isogenic	Eco	CXA-101	B	B	B	C	C	C	A	B	C	C	C	C	C	C	C	B	B	
P99	isogenic	Eco	CXA-101	A	A	A	A	B	AA	B	B	AA	A	A	A	B	A	A	B	A	
KPC-3	clinical	Kpn	CXA-101	C	C	C	C	D	B	C	C	C	C	C	C	C	C	C	B	B	
KPC-2	clinical	Pae	CXA-101	B	C	C	B	D	C	C	C	B	B	B	C	C	C	C	B	B	

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

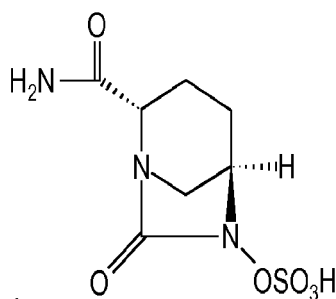
Fig. 3A

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	COMPOUNDS																
				CCC	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745
none	isogenic	Eco	none	D	E	D	F	D	C	D	F	F	F	F	F	F	F	F	F	F
KPC-2	isogenic	Eco	CXA-101	B	A	A	A	B	A	A	A	A	B	A	A	A	A	A	A	A
OXA-15	isogenic	Eco	CXA-101	D	D	C	C	C	C	C	D	C	C	C	B	C	C	C	C	C
CTX-M-15	isogenic	Eco	CXA-101	A	B	A	A	B	B	A	B	B	C	A	B	A	B	A	A	B
SHV-12	isogenic	Eco	CXA-101	B	D	B	B	C	B	C	C	C	B	C	C	C	C	C	C	C
P99	isogenic	Eco	CXA-101	A	A	A	A	B	A	B	B	A	B	A	A	A	B	B	A	B
KPC-3	clinical	Kpn	CXA-101	C	D	C	B	C	C	C	C	C	D	C	C	C	C	C	C	C
KPC-2	clinical	Pae	CXA-101	B	C	B	B	C	C	B	C	C	D	C	C	C	C	C	C	C

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

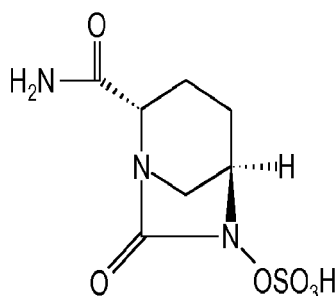
Fig. 3B

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	COMPOUNDS																	
				CCC	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762
none	isogenic	Eco	none	D	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
KPC-2	isogenic	Eco	CXA-101	B	A	A	B	A	A	A	A	A	A	A	A	B	A	A	A	A	B
OXA-15	isogenic	Eco	CXA-101	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D
CTX-M-15	isogenic	Eco	CXA-101	A	A	B	A	A	B	B	A	A	A	A	A	B	B	B	A	A	B
SHV-12	isogenic	Eco	CXA-101	B	C	C	C	B	C	B	C	C	C	C	C	C	C	C	C	C	C
P99	isogenic	Eco	CXA-101	A	A	B	A	B	B	B	B	A	B	A	A	B	A	A	A	A	B
KPC-3	clinical	Kpn	CXA-101	C	C	C	C	C	C	C	C	C	C	C	C	C	C	B	C	C	C
KPC-2	clinical	Pae	CXA-101	B	C	B	C	B	B	B	C	C	C	C	C	C	B	B	C	C	C

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

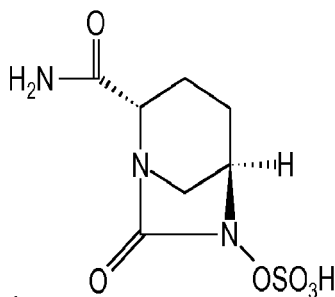
Fig. 3C

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

				COMPOUNDS																	
β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	CCC	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779
none	isogenic	Eco	none	D	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
KPC-2	isogenic	Eco	CXA-101	B	A	A	A	A	A	A	B	A	A	A	B	B	B	A	A	B	A
OXA-15	isogenic	Eco	CXA-101	D	D	C	C	D	C	C	C	C	C	C	C	C	D	D	C	C	C
CTX-M-15	isogenic	Eco	CXA-101	A	B	B	A	B	A	B	B	A	A	B	A	B	B	B	B	B	B
SHV-12	isogenic	Eco	CXA-101	B	C	B	C	C	B	C	C	C	B	C	C	C	C	C	C	C	C
P99	isogenic	Eco	CXA-101	A	B	A	A	B	A	A	A	B	B	B	B	B	B	B	B	B	B
KPC-3	clinical	Kpn	CXA-101	C	C	B	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C
KPC-2	clinical	Pae	CXA-101	B	C	B	C	B	B	B	C	C	C	C	C	C	C	C	C	C	C

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

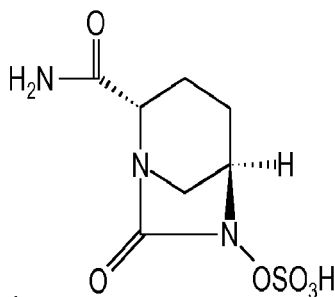
Fig. 3D

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

				COMPOUNDS																	
β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	CCC	780	781	782	783	784	785	786	792	793	794	795	796	797	798	722	723	724
none	isogenic	Eco	none	D	F	F	F	F	F	F	F	F	F	E	E	F	F	F	F	F	F
KPC-2	isogenic	Eco	CXA-101	B	B	B	AA	A	A	B	A	B	B	A	A	B	B	C	A	A	A
OXA-15	isogenic	Eco	CXA-101	D	C	C	C	C	D	D	D	C	D	C	C	E	C	F	C	C	C
CTX-M-15	isogenic	Eco	CXA-101	A	B	B	B	B	B	B	F	B	C	B	C	D	B	D	A	A	A
SHV-12	isogenic	Eco	CXA-101	B	C	C	C	B	B	B	B	C	C	B	B	C	C	E	F	B	C
P99	isogenic	Eco	CXA-101	A	B	B	A	A	A	B	A	B	A	A	A	B	B	B	A	A	A
KPC-3	clinical	Kpn	CXA-101	C	C	C	B	C	C	C	C	D	D	B	D	D	D	F	B	C	C
KPC-2	clinical	Pae	CXA-101	B	C	C	B	C	C	C	B	D	D	B	C	C	D	F	B	C	D

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

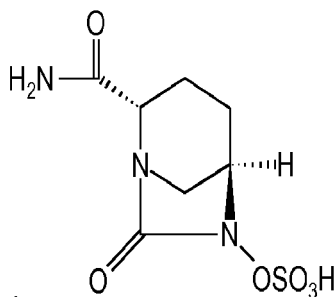
Fig. 3E

Table III: Synergy MIC (sMIC) Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)	COMPOUNDS													
				CCC	725	726	727	728	729	714	715	716	717	718			
none	isogenic	Eco	none	D	F	F	F	F	F	F	F	F	F	F			
KPC-2	isogenic	Eco	CXA-101	B	B	A	A	A	A	A	B	B	B	B			
OXA-15	isogenic	Eco	CXA-101	D	D	C	C	C	C	C	C	C	C	D			
CTX-M-15	isogenic	Eco	CXA-101	A	B	A	B	B	B	A	B	B	B	C			
SHV-12	isogenic	Eco	CXA-101	B	C	C	C	C	C	B	C	C	D	B			
P99	isogenic	Eco	CXA-101	A	B	B	A	A	A	A	A	A	B	A			
KPC-3	clinical	Kpn	CXA-101	C	C	C	C	C	C	B	C	C	C	D			
KPC-2	clinical	Pae	CXA-101	B	C	B	C	B	B	B	C	C	C	C			

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL;
E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*,
Pae is *Pseudomonas aeruginosa*



CCC is comparator compound

Fig. 3F

Table IV: Inhibition Kinetics for the KPC-2 β -lactamase

	Compound																
	CCC	701	702	703	704	705	706	707	708	709	710	711	712	713	719	720	721
Kinact/K mM ⁻¹ s ⁻¹	C	B	B	B	C	B	B	B	C	B	C	B	B	B	C	C	C

	Compound															
	CCC	714	715	716	717	718										
Kinact/K mM ⁻¹ s ⁻¹	C	B	C	C	C	C										

A = 1000-5000 Mm⁻¹s⁻¹; B = 100-999 mM⁻¹s⁻¹; C = 1-99 mM⁻¹s⁻¹

CCC is comparator compound

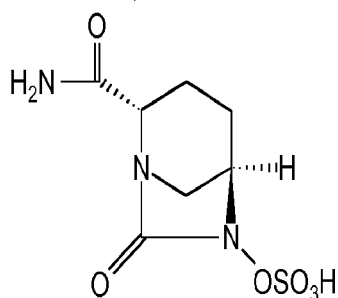
**Fig. 4A**

Table IV: Inhibition Kinetics for the KPC-2 β -lactamase

	Compound																		
Kinact/K mM ⁻¹ s ⁻¹	CCC	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747
	C	B	C	C	C	C	C	C	C	C	C	B	B	B	B	C	B	B	C

	Compound																		
	CCC	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765
K _{inact} /K _m mM ⁻¹ s ⁻¹	C	B	B	C	C	B	B	C	C	C	C	C	C	C	C	C	C	C	C

A = 1000-5000 Mm⁻¹s⁻¹; B = 100-999 mM⁻¹s⁻¹; C = 1-99 mM⁻¹s⁻¹

CCC is comparator compound

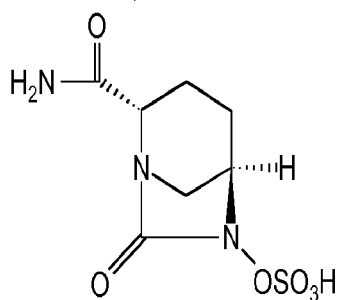
**Fig. 4B**

Table IV: Inhibition Kinetics for the KPC-2 β -lactamase

	Compound																		
	CCC	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783
K _{inact} /K mM ⁻¹ s ⁻¹	C	C	B	C	C	B	C	C	C	C	B	C	C	C	B	C	B	B	C

A = 1000-5000 Mm⁻¹s⁻¹; B = 100-999 mM⁻¹s⁻¹; C = 1-99 mM⁻¹s⁻¹

	Compound																		
	CCC	784	785	786	792	793	794	795	796	797	798	722	723	724	725	726	727	728	729
K _{inact} /K mM ⁻¹ s ⁻¹	C	C	B	C	C	C	B	C	C	C	B	C	C	C	C	C	C	C	C

A = 1000-5000 Mm⁻¹s⁻¹; B = 100-999 mM⁻¹s⁻¹; C = 1-99 mM⁻¹s⁻¹

CCC is comparator compound

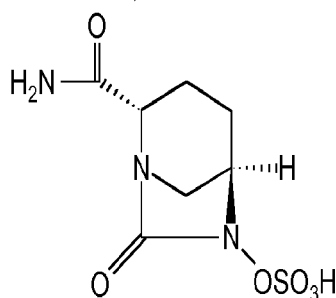
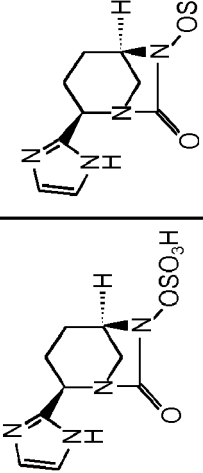
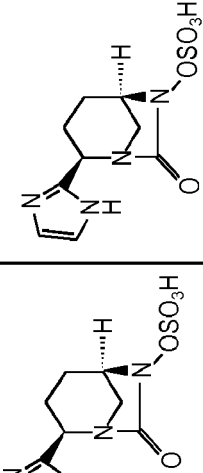
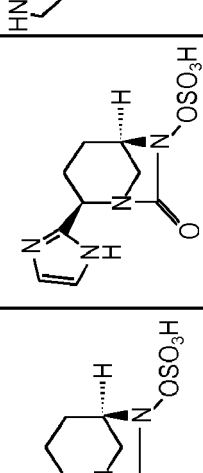
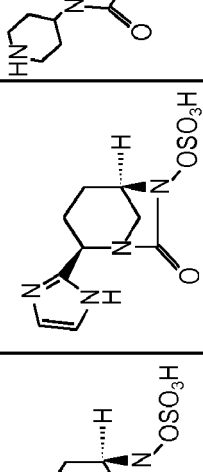
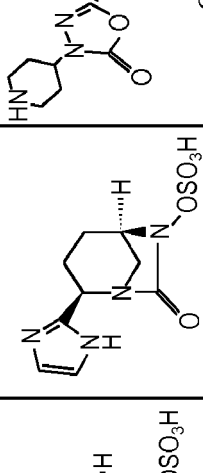
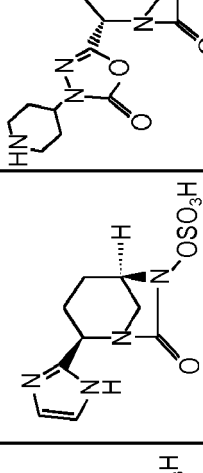
**Fig. 4C**

Table V: Synergy MIC (sMIC) of Comparator Compounds Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)						
none	isogenic	Eco	D	F	F	F	F	F	F
KPC-2	isogenic	Eco	C	F	C	C	C	C	C
OXA-15	isogenic	Eco	ND	ND	ND	ND	ND	ND	F
CTX-M-15	isogenic	Eco	C	F	D	D	B	D	D
SHV-12	isogenic	Eco	C	F	D	D	C	D	D
P99	isogenic	Eco	C	F	B	B	B	C	C
KPC-3	clinical	Kpn	D	F	C	C	D	E	E
KPC-2	clinical	Pae	F	F	D	D	F	D	D

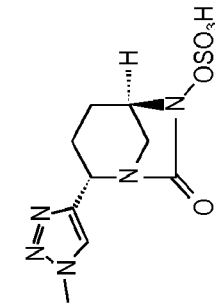
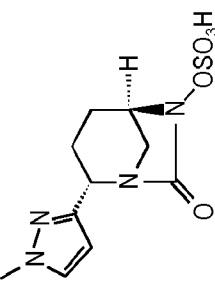
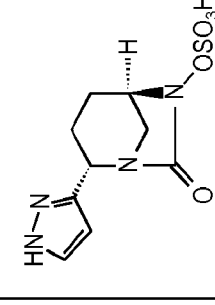
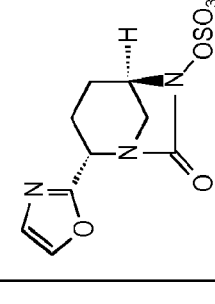
AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

Fig. 5A

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Table V: Synergy MIC (sMIC) of Comparator Compounds Against a Panel of Isogenic and Clinical Strains Expressing β -lactamases

β -Lactamase	Bkgd	Sp	β -Lactam (4 μ g/mL)				
none	isogenic	Eco	none	E	F	F	F
KPC-2	isogenic	Eco	CXA-101	A	D	C	B
OXA-15	isogenic	Eco	CXA-101	ND	F	F	D
CTX-M-15	isogenic	Eco	CXA-101	D	F	D	B
SHV-12	isogenic	Eco	CXA-101	B	C	C	B
P99	isogenic	Eco	CXA-101	A	C	B	A
KPC-3	clinical	Kpn	CXA-101	E	F	F	D
KPC-2	clinical	Pae	CXA-101	E	F	F	D

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL; C = 4-8 μ g/mL; D = 16-32 μ g/mL; E = 64 μ g/mL; F = $\geq$ 128 μ g/mL

CXA-101 is Ceftolozane, Eco is *Escherichia coli*, Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

Fig. 5B

Table VI: Standard BLI Potentiation MIC Assay of Compounds Partnered with CXA-101 Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	701	720	727	722	726
Eco.2781	KPC-2, TEM+	clinical	C	A	A	AA	AA	A	A
Kpn.2914	KPC-2, SHV+	clinical	D	B	B	A	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	AA	AA	AA	A
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	AA	AA	AA	A
Kpn.2478	KPC-3, TEM-1	clinical	E	C	C	A	B	B	C
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	B	B	B	B	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	AA	B	B	B
Kpn.571	TEM-26	clinical	D	A	AA	AA	A	A	A
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	B	B	AA	B	B	B
Pae.2885	AmpC	clinical	B	A	A	A	A	A	A
Cfr.568	AmpC	clinical	E	B	B	A	B	B	C
Eco.2491	CMY-2	clinical	D	A	A	AA	A	A	B
Pac.2757	AmpC over-expn	clinical	C	B	B	B	B	B	B
Pac.2863	AmpC de-repress	clinical	C	B	B	B	B	B	B
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	A	B	B	C
Kpn.3095	NDM-1, CTX-M-15	clinical	B	E	B	B	B	B	B
MIC90			B	C	B	B	B	B	C
MIC50			D	B	B	A	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL;

C = 4-8 μ g/mL; D = 16-32 μ g/mL; E = $\geq$ 64 μ g/mL;

CXA-101 is Ceftolozane, Eco is *Escherichia coli*,
Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

CCC is comparator compound

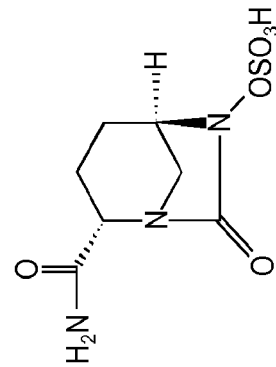


Fig. 6

Table VII: Standard BLI Potentiation MIC Assay of Compounds Partnered with Ceftazidime Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	701	720	727	722	726
Eco.2781	KPC-2, TEM+	clinical	D	A	A	AA	A	A	A
Kpn.2914	KPC-2, SHV+	clinical	E	B	B	A	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	D	A	A	AA	A	A	B
Kpn.2917	KPC-2, SHV+	clinical	D	A	A	AA	A	B	B
Kpn.2478	KPC-3, TEM-1	clinical	E	C	C	B	C	C	C
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	C	C	B	C	C	C
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	B	B	AA	C	C	C
Kpn.571	TEM-26	clinical	E	A	A	AA	A	B	B
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	B	AA	B	B	B
Pae.2885	AmpC	clinical	E	C	B	B	C	C	C
Cfr.568	AmpC	clinical	E	B	B	A	B	B	C
Eco.2491	CMY-2	clinical	E	A	A	A	A	A	B
Pac.2757	AmpC over-expn	clinical	D	C	C	B	C	D	D
Pac.2863	AmpC de-repress	clinical	E	D	D	C	D	D	D
Kpn.2926	CTX-M-15, OXA-48	clinical	E	B	B	A	B	B	B
Kpn.3095	NDM-1, CTX-M-15	clinical	E	E	E	E	E	E	E
MIC90			E	C	C	B	C	D	D
MIC50			E	B	B	A	B	B	B

AA = <0.25 $\mu\text{g/mL}$; A = 0.25-0.5 $\mu\text{g/mL}$; B = 1-2 $\mu\text{g/mL}$;
C = 4-8 $\mu\text{g/mL}$; D = 16-32 $\mu\text{g/mL}$; E = ≥ 64 $\mu\text{g/mL}$;

CXA-101 is Ceftolozane, Eco is *Escherichia coli*,
Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

CCC is comparator compound

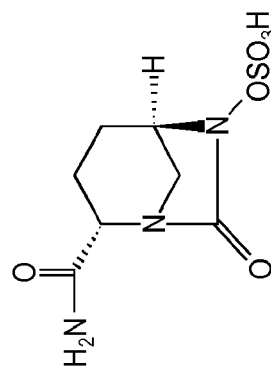


Fig. 7

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Table VIII: Standard BLI Potentiation MIC Assay of Compounds Partnered with Aztreonam Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	701	720	727	722	726
Eco.2781	KPC-2, TEM+	clinical	E	AA	AA	AA	AA	AA	AA
Kpn.2914	KPC-2, SHV+	clinical	E	A	A	A	B	B	B
Kpn.2913	KPC-2, SHV+	clinical	E	AA	AA	AA	AA	AA	A
Kpn.2917	KPC-2, SHV+	clinical	E	AA	AA	AA	AA	AA	A
Kpn.2478	KPC-3, TEM-1	clinical	E	B	B	A	B	B	C
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	B	B	A	B	B	B
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	A	A	AA	B	B	B
Kpn.571	TEM-26	clinical	D	AA	AA	AA	AA	AA	AA
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	A	AA	A	A	A
Pae.2885	AmpC	clinical	D	C	C	B	C	C	C
Cfr.568	AmpC	clinical	E	B	B	A	B	B	C
Eco.2491	CMY-2	clinical	D	AA	AA	AA	AA	A	A
Pac.2757	AmpC over-exprn	clinical	D	B	B	B	C	C	C
Pac.2863	AmpC de-repress	clinical	E	C	C	C	D	D	D
Kpn.2926	CTX-M-15, OXA-48	clinical	E	AA	A	AA	A	A	A
Kpn.3095	NDM-1, CTX-M-15	clinical	E	AA	AA	AA	AA	AA	C
MIC90			E	C	C	B	C	C	C
MIC50			E	A	A	A	B	B	B

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL;
C = 4-8 μ g/mL; D = 16-32 μ g/mL; E = 64 $\geq$ μ g/mL;

CXA-101 is Ceftolozane, Eco is *Escherichia coli*,
Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

CCC is comparator compound

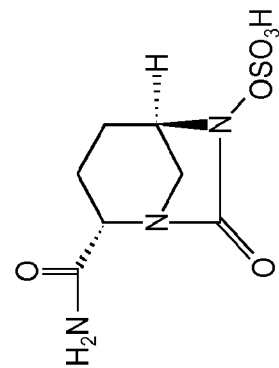


Fig. 8

Table IX: Standard BLI Potentiation MIC Assay of Compounds Partnered with Meropenem Against a Panel of Isogenic and Clinical Strains Expressing β -Lactamases

Strain #	β -Lactamase	Bkgd	No BLI	CCC	701	720	727	722	726
Eco.2781	KPC-2, TEM+	clinical	D	AA	AA	AA	AA	AA	AA
Kpn.2914	KPC-2, SHV+	clinical	E	C	A	C	C	C	D
Kpn.2913	KPC-2, SHV+	clinical	E	B	B	A	B	B	B
Kpn.2917	KPC-2, SHV+	clinical	C	AA	AA	AA	AA	AA	A
Kpn.2478	KPC-3, TEM-1	clinical	E	B	B	A	B	B	C
Kpn.2918	KPC-3, SHV+, TEM+	clinical	E	B	B	A	B	B	B
Kpn.2909	KPC-3, SHV+, TEM+	clinical	E	AA	A	AA	B	A	A
Kpn.571	TEM-26	clinical	AA	AA	AA	AA	AA	AA	AA
Kpn.2783	CTX-M-15, SHV+, TEM+	clinical	E	A	A	AA	A	A	A
Pae.2885	AmpC	clinical	C	B	B	B	B	B	B
Cfr.568	AmpC	clinical	B	A	A	A	A	A	A
Eco.2491	CMY-2	clinical	B	A	A	AA	A	A	A
Pac.2757	AmpC over-exprn	clinical	D	D	D	C	D	D	D
Pac.2863	AmpC de-repress	clinical	C	B	B	B	B	B	B
Kpn.2926	CTX-M-15, OXA-48	clinical	D	B	B	A	C	C	C
Kpn.3095	NDM-1, CTX-M-15	clinical	E	E	E	C	E	E	E
MIC90			E	C	C	C	C	C	D
MIC50			D	B	B	A	B	B	C

AA = <0.25 μ g/mL; A = 0.25-0.5 μ g/mL; B = 1-2 μ g/mL;
C = 4-8 μ g/mL; D = 16-32 μ g/mL; E = 64 $\geq$ μ g/mL;

CXA-101 is Ceftolozane, Eco is *Escherichia coli*,
Kpn is *Klebsiella pneumoniae*, Pae is *Pseudomonas aeruginosa*

CCC is comparator compound

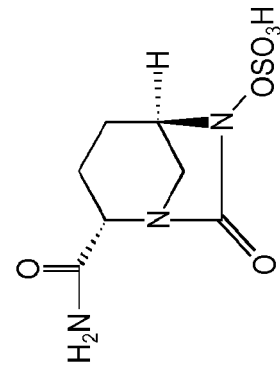


Fig. 9