Supporting Information

Recent progress on the chemical synthesis of bacterial non-2-ulosonic acids

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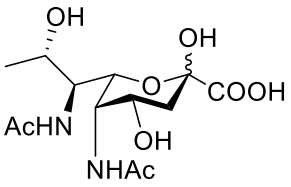
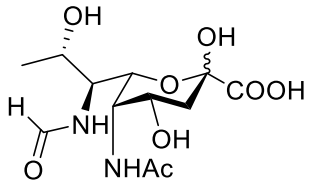
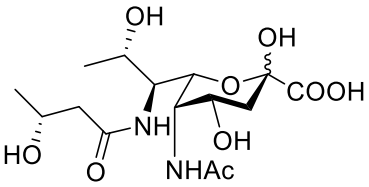
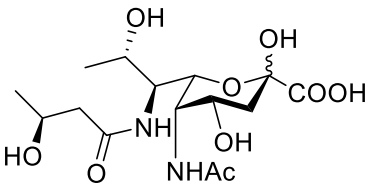
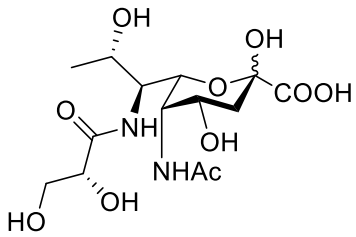
Table 1.1 Structures of naturally occurring pseudaminic acid family found in pathogenic bacteria

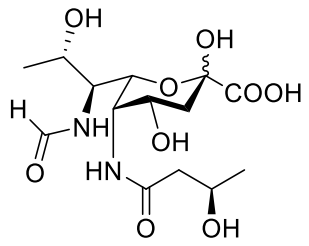
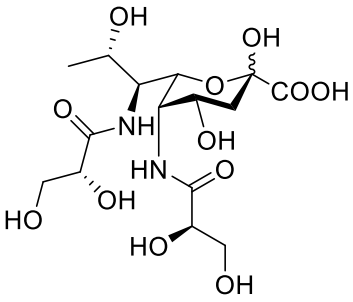
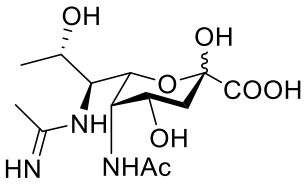
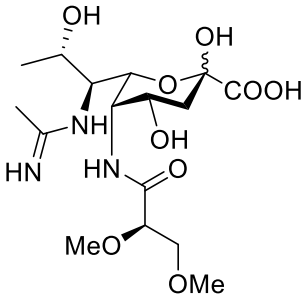
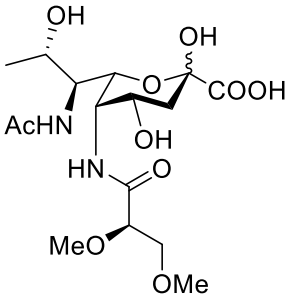
Pseudaminic acid	Bacterial source	Structure	References
	Acinetobacter baumannii ACICU	CPS	**1**
	Acinetobacter baumannii A74	CPS	**2**
	Acinetobacter baumannii NIPH67	CPS	**3**

	*Acinetobacter baumannii* RBH4	CPS	**4**
	Acinetobacter baumannii SGH 0703 (DB24441)	CPS	**5**
	Acinetobacter baumannii ST25 isolate- D4	CPS	**6**
	Acinetobacter baumannii 52-249	CPS	**7**
	Acinetobacter baumannii 54149	EPS	**8**
	Aeromonas hydrophila AH-1 (Serotype O11)	Flagellin	**9**
	Aeromonas caviae Sch3N	LPS	**10**
	Aeromonas caviae UU51	Flagellin	**11**
	Bacillus thuringiensis israelensis ATCC 35646 (Gram-positive bacteria)	Flagellin	**12**
	Campylobacter jejuni 81-176	Flagellin	**13**

	Campylobacter jejuni 11168	Flagellin	**14**
	Campylobacter coli VC167	Flagellin	**15**
	Cellulophaga fucicola	LPS	**16**
	Enterobacter cloacae K7	LPS	**17**
	Escherichia coli O136	LPS	**18**
	Fusobacterium nucleatum 25586	LPS	**19**
	Helicobacter pylori 1061	Flagellin	**11**, **20**
	Piscirickettsia salmonis	LPS	**21**
	Plesiomonas shigelloides O36	LPS	**22**
	Proteus vulgaris O39	LPS	**23**
	Pseudoateromonas atlantica T9	LPS	**24**
	Pseudoalteromonas atlantica IAM 14165	LPS	**25**
	Psychrobacter arcticus 273-4	CPS	**26**
	Rhizobium sp. NGR234	CPS	**27**

	Sinorhizobium meliloti Rm1021	CPS	**28 29**
	Tannerella forsythia ATCC 43037	LPS	**30**
	Vibrio vulnificus 27562	LPS	**31**
	*Pseudomonas aeruginosa* O7a, 7b, 7d and O7a, 7d (immunotype 6)	LPS	**32**, **33**
	Pseudoalteromonas distincta KMM 638	LPS	**34**
	Acinetobacter baumannii B11911	CPS	**35**
	Acinetobacter baumannii LUH5550	CPS	**36**
	Acinetobacter baumannii ST25 isolate-D4	CPS	**6**
	Actinoplanes utahensis VKM Ac-674	Cell wall	**37**
	Escherichia coli O165	LPS	**38**
	Kribbella spp. VKM	Cell wall	**39**
	Pseudomonas aeruginosa O9a, 9b	LPS	**40**

	*Pseudomonas aeruginosa* O10a	LPS	**41**
	Pseudomonas chlororaphis subsp. chlororaphis UCM B-106(ATCC 9446)	LPS	**42**
	Plesiomonas shigelloides O36	LPS	**22**
	Shigella boydii type 7	LPS	**41**
	Sinorhizobium fredii HH103	LPS	**43**
	Campylobacter jejuni 81-176	Flagellin	**13**
	Campylobacter coli VC167	Flagellin	**15**
	*Sinorhizobium fredii* HH103	LPS	**43**
	*Vibrio vulnificus* 27562	LPS	**44**

	*Pseudomonas aeruginosa* O7a, 7b, 7c;1244	LPS; Pilin	**33**, **45**
	*Campylobacter jejuni* 81-176	Flagellin	**13**
	*Campylobacter jejuni* 11168	Flagellin	**46**
	*Campylobacter jejuni* 11168	Flagellin	**46**
	*Campylobacter jejuni* 11168	Flagellin	**46**
	Campylobacter coli VC167	Flagellin	**15**

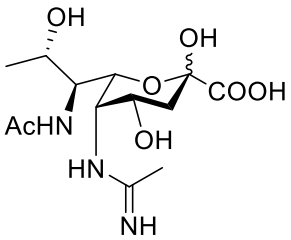
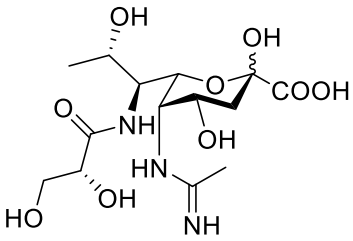
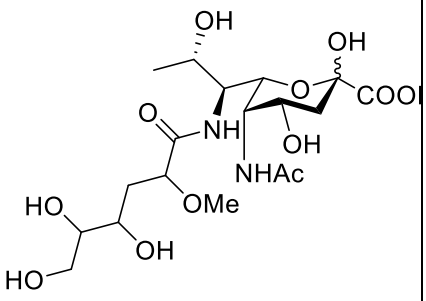
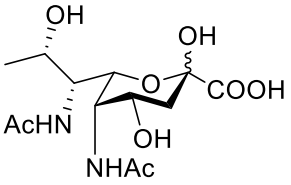
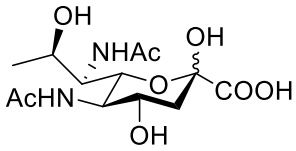
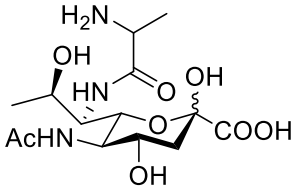
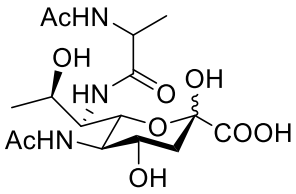
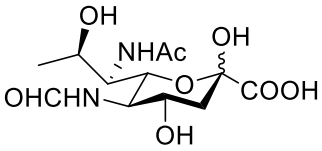
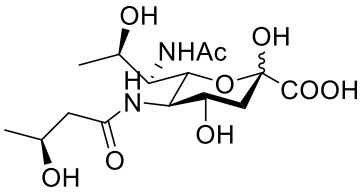
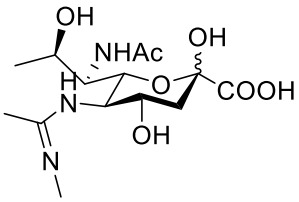
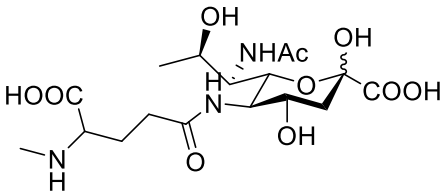
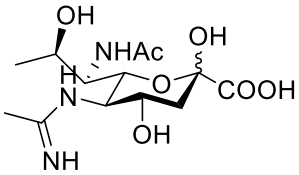
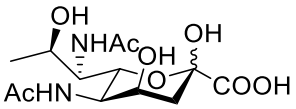
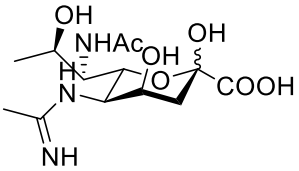
	*Campylobacter jejuni* 81-176	Flagellin	**13**
	Vibrio cholera O:2	LPS	**47**
	*Tannerella forsythia* ATCC43037	S-layer	**48**
	*Treponema denticola* ATCC 35405	Flagellin	**49**
	*Acinetobacter baumannii* Res546	CPS	**50**

Table 1.2. Structures of naturally occurring legionaminic acid family found in pathogenic bacteria

Legionaminic Acid	Bacterial source	Structure	References
	*Acinetobacter baumannii* O24	CPS	**51**
	Campylobacter jejuni 11168	Flagellin	**46**
	Enterobacter cloacae C6285	LPS	**52**
	Escherichia coli O161	LPS	**53**
	Enterococcus faecium Tx16	CPS	**54**
	Tannerella forsythia FDC92A2	S-layer	**30**
	Tannerella forsythia UB4	S-layer	**48**
	Vibrio alginolyticus 945-80	LPS	**51**
	Vibrio parahaemolyticus O2	LPS	**55**
	*Escherichia coli* O161	LPS	**53**

	*Vibrio parahaemolyticus* KX-V212	LPS	**56**
	Vibrio vulnificus CMCP6	LPS	**57**
	*Halorubrum sp.* PV6	S-layer	**58**, **59**
	*Acinetobacter baumannii* O24	CPS	**51**
	*Campylobacter coli* VC167	Flagellin	**60**
	Campylobacter jejuni 11168	Flagellin	**46**
	*Clostridium botulinum*	Flagellin	**61**
	Campylobacter coli VC167	Flagellin	**59**
	Campylobacter jejuni 11168	Flagellin	**46**

	*Legionella pneumophila* serogroup 1	LPS	**62**
	Pseudomonas fluorescens ATCC 49271	LPS	**51**
	Vibrio salmonicida NCMB 2262	LPS	**51**
4-*epi* legionaminic acid			
	*Legionella pneumophila* serogroups 1, 3,4,5,6,7,8,9,10,11,12, 14	LPS	**63**, **64**
	Shewanella japonica KMM 3601	LPS	**65**
	*Legionella pneumophila* serogroup 2	LPS	**64**
8-*epi* legionaminic acid			
	Acinetobacter baumannii LAC-4	LPS	**66**
	Escherichia coli O108	LPS	**67**

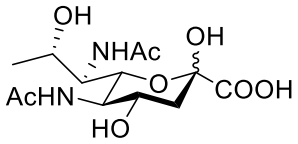
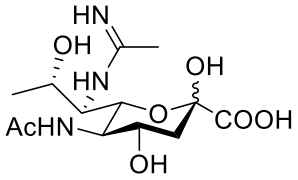
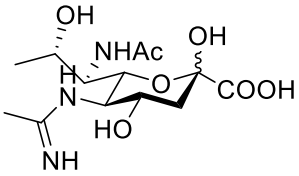
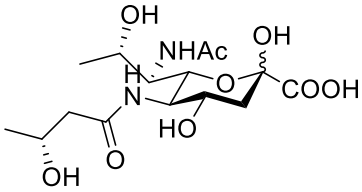
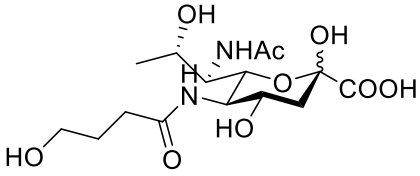
	*Providencia stuartii* O20	LPS	**68**
	Pseudomonas aeruginosa O12	LPS	**40**
	Vibrio fischeri ES114	LPS	**69**
	*Shewanella putrefaciens* A6	LPS	**70**
	*Morganella morganii* KF 1676 (RK 4222)	LPS	**71**
	*Salmonella arizonae* O61	LPS	**72**
	*Yersinia ruckeri* O1	LPS	**73**

Table 1.3. Structures of naturally occurring acinetaminic acid family found in pathogenic bacteria

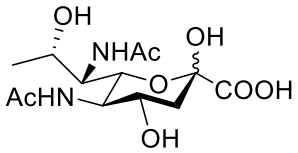
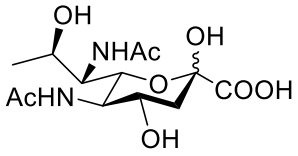
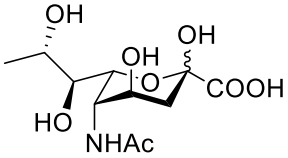
Acinetaminic acid	Bacterial source	Structure	References
	*Acinetobacter baumannii* D36	CPS	**74**, **75**
	Acinetobacter baumannii UMB001	CPS	**76**
8-*epi* Acinetaminic acid			
	*Acinetobacter baumannii* SGH 0703	CPS	**77**, **78**

Table 1.4. Structures of naturally occurring fusaminic acid found in pathogenic bacteria.

Fusaminic acid	Bacterial source	Structure	References
	*Fusobacterium nucleatum* ATCC25586	LPS	**79**

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