

**Table 2. Shared *S. aureus* bacteriophage genes**

		Class I				Class II																	Class III						
						Clade A				Clade B				Clade C															
		PT1028	66	44AHJD	P68	187	69	53	85	2638A	77	42e	3A	47	37	EW	96	ROSA	71	55	29	52A	88	92	X2	K	G1	Twort	
Class I	PT1028		0	0	0	4	2	1	2	2	3	3	2	3	3	1	1	2	1	1	1	1	2	2	0	1	1	0	
	66	0		25	27	2	4	3	4	1	1	4	4	4	3	3	3	3	3	4	4	4	4	4	4	3	3	2	
	44AHJD	0	20		28	2	4	3	4	1	1	2	2	2	3	3	3	3	3	4	4	4	4	4	4	3	3	2	
	P68	0	22	23		2	4	4	5	1	1	4	4	4	3	3	3	3	3	4	4	4	4	4	4	4	4	4	3
Class II	Clade A	187	0	1	1	1		43	41	41	9	31	24	13	18	22	21	30	40	31	34	33	31	33	32	29	6	7	7
		69	0	3	3	3	33		57	50	9	28	29	21	18	27	25	38	44	37	39	41	40	42	42	39	5	5	3
		53	0	1	1	1	33	48		62	8	34	29	25	28	30	28	37	50	34	34	42	37	46	47	41	3	3	3
		85	2	3	3	3	30	39	51		10	27	27	20	21	31	33	32	44	32	39	39	39	48	46	38	6	6	7
	Clade B	2638A	0	0	0	0	3	3	3	4		25	19	23	23	12	11	10	10	9	11	10	11	9	9	8	2	2	4
		77	2	0	0	0	20	22	26	20	17		30	30	33	18	18	27	37	28	28	27	25	32	31	24	1	1	4
	Clade C	42e	0	2	2	2	19	18	19	16	11	19		43	46	13	19	30	27	30	27	33	25	28	31	31	9	10	11
		3A	0	1	1	1	8	11	16	12	14	18	37		56	9	8	20	23	20	21	19	18	18	19	19	7	7	9
		47	1	1	1	1	9	9	15	11	15	20	35	49		12	8	23	27	20	16	19	18	21	21	20	6	6	9
		37	0	2	2	2	8	13	14	15	4	7	6	3	3		37	25	36	30	31	32	31	37	35	33	5	5	7
	Clade C	EW	0	2	2	2	8	11	11	19	4	7	7	3	2	25		35	38	41	34	37	31	38	34	39	5	5	7
		96	0	1	1	1	20	29	29	26	2	19	21	10	12	14	23		47	47	49	51	53	49	48	49	3	3	3
		ROSA	1	1	1	1	28	30	36	34	4	31	14	14	14	24	25	36		56	50	53	48	53	51	44	3	3	6
		71	0	2	2	2	23	28	26	25	2	18	20	12	9	20	26	37	44		56	52	47	52	46	51	3	3	4
		55	0	3	3	3	24	29	25	30	1	19	18	13	8	22	22	38	40	49		54	53	53	53	48	4	4	3
		29	0	3	3	3	22	29	30	29	3	17	19	9	8	20	21	38	41	46	49		53	49	47	52	7	6	5
		52A	1	3	3	3	19	26	26	28	3	18	16	11	9	19	23	42	38	40	46	43		53	51	46	4	4	4
		88	1	3	3	3	21	31	34	37	3	22	17	10	10	25	24	37	42	45	45	41	42		63	55	7	8	6
	X2	0	3	3	3	20	31	36	37	3	22	22	11	10	24	23	38	40	39	46	39	42	#		55	5	5	4	
	Class III	K	0	2	2	2	2	1	0	1	1	0	2	1	1	2	2	0	1	0	1	1	1	1	1	1		192	130
G1		0	2	2	2	2	1	0	1	1	0	2	1	1	2	2	0	1	0	1	1	1	1	1	1	163		134	
Twort		0	1	1	1	1	2	1	2	1	0	2	0	0	4	4	0	1	1	2	2	2	2	2	2	91	92		

The values represent the number of shared genes from the different pairs of *S. aureus* bacteriophages. The numbers in the top part (Roman) and bottom part (italics) are derived from BLAST cutoff *E* values of  $10^{-4}$  and  $10^{-20}$ , respectively. The phages are grouped according to size class: I (< 20 kbp), II ( $\approx$ 40 kbp), and III (> 125 kbp).