

**Supplementary Table 2: Virion proteins of JBD26, DMS3, and JBD88a**

JBD26		Protein	DMS3		Identity	JBD88a		Identity	Function <sup>2</sup>
ORF	Accession ID	Length (amino acids)	ORF	Accession ID	to JBD26 (%)	ORF <sup>1</sup>	Accession ID	to JBD26 (%)	
33	AEY99445.1	528	27	YP_950451.1	78	29	YP_007392436.1	78	portal protein
34	AEY99435.1	428	28	YP_950452.1	87	30	YP_007392437.1	86	homologue of phage Mu gpF
40	AEY99460.1	368	32	YP_950456.1	76	36	YP_007392443.1	64	protease/scaffold
41	AEY99438.1	302	33	YP_950457.1	42	37	YP_007392444.1	42	major head
45	AEY99483.1	138	36	YP_950460.1	68	40	YP_007392447.1	68	head-tail joining
46	AEY99456.1	159	37	YP_950461.1	71	41	YP_007392448.1	70	tail terminator
48	AEY99480.1	256	39	YP_950463.1	96	43	YP_007392450.1	55	tail tub
51	AEY99434.2	1186	41	YP_950465.1	29	45	YP_007392452.1	34	tape measure
52	AEY99430.1	318	42	YP_950466.1	98	46	YP_007392453.1	95	putative tail protein
53	AEY99452.1	307	43	YP_950467.1	99	47	YP_007392454.1	87	putative tail protein
54	AEY99446.1	567	44	YP_950468.1	98	48	YP_007392455.1	97	tail protein; phage lambda gpM-like
55	AEY99474.1	273	45	YP_950469.1	90	49	YP_007392456.1	93	tail protein; phage lambda gpL-like
58	AEY99479.1	735	48	YP_950472.1	98	52	YP_007392459.1	96	central fibre
59	AEY99482.1	383	49	YP_950473.1	86	53	YP_007392460.1	98	DUF2793 domain containing protein <sup>3</sup>

<sup>1</sup>These proteins were detected by mass spectrometry in purified JBD88a phage particles. Mass spectrometry was performed on this phage because its yield of pure particles was higher than the other phages.

<sup>2</sup>Functions were assigned by BLAST searches and HHpred predictions.

<sup>3</sup>Similarity with DMS3 is only in the first 150 residues. The C-terminal domains are totally distinct.