

Table S6: Vibrionaceae 19-taxon random subset datasets LCBs and trees.

Chromosome	Aligned bp	Algorithm	Tree topologies (Newick)
Large	10,000	MP	(18,(17,((16,(14,15)),((13,(4,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(10,(9,11)),(5,(8,(6,7)))))))));
	20,000	MP	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(8,(5,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(9,(10,11)),(5,(8,(6,7)))))))));
	30,000	MP	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(9,(10,11)),(5,(6,(7,8)))))))));
	40,000	MP	(18,((17,(16,(14,15))),((13,(4,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,(9,(10,11)),(5,(8,(6,7)))))))));
	50,000	MP	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
	100,000	MP	(18,((17,(16,(14,15))),((13,(4,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,(17,((16,(14,15)),(12,((4,(13,(0,(2,(1,3))))),(11,(9,10)),(5,(8,(6,7)))))))));
	200,000	MP	(18,(17,((16,(14,15)),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(10,(9,11)),(5,(8,(6,7)))))))));
	300,000	MP	(18,(17,((16,(14,15)),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(10,(9,11)),(5,(8,(6,7)))))))));
	400,000	MP	(18,(17,((16,(14,15)),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(11,(9,10)),(5,(8,(6,7)))))))));
	500,000	MP	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(10,(9,11)),(5,(8,(6,7)))))))));
1,000,000	MP	(18,(17,((16,(14,15)),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));	
	ML	(18,(17,((16,(14,15)),((4,(13,(0,(2,(1,3))))),(12,((10,(9,11)),(5,(8,(6,7)))))))));	
Small	10,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(1,3,(2,0))))),(11,(10,9)),(5,(8,(6,7)))))))));
	20,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
	30,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
	40,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(10,(11,9)),(5,(8,(6,7)))))))));
	50,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3))))),(12,(9,(10,11)),(5,(8,(6,7)))))))));
	100,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));
		ML	(18,((17,(16,(14,15))),((12,((4,(13,(0,(2,(1,3))))),(9,(10,11)),(5,(8,(6,7)))))))));
	200,000	MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3))))),(12,((9,(10,11)),(8,(5,(6,7)))))))));

Table S6: Vibrionaceae 19–taxon random subset datasets LCBs and trees (continued).

Chromosome	Aligned bp	Algorithm	Tree topologies (Newick)
	300,000	ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
		MP	(18,((16,(14,15)),(17,((4,(13,(0,(2,(1,3)))))),(12,((9,(10,11)),(8,(5,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
both	10,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(8,(5,(6,7))))))));
		ML	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
	20,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((11,(9,10)),(5,(6,(7,8))))))));
	30,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	40,000	MP	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((10,(9,11)),(5,(8,(6,7))))))));
	50,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	100,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(8,(5,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((10,(9,11)),(5,(8,(6,7))))))));
	200,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	300,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	400,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	500,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,((17,(16,(14,15))),((4,(13,(0,(2,(1,3)))))),((9,(10,11)),(5,(8,(6,7))))))));
	1,000,000	MP	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));
		ML	(18,(17,((16,(14,15))),((4,(13,(0,(2,(1,3)))))),(12,((10,(9,11)),(5,(8,(6,7))))))));