

**Table S3** The best partitioning schemes and substitution models selected by IQ-TREE for the three datasets.

Dataset	Subset	Best-fit scheme	Model
P123	P1	<i>atp6_pos1+cob_pos1+cox1_pos1+cox2_pos1+cox3_pos1</i>	GTR+F+I+G4
	P2	<i>atp6_pos2+cob_pos2+cox1_pos2+cox2_pos2+cox3_pos2+nad1_pos2+nad2_pos2+nad3_pos2+nad4_pos2+nad4L_pos2+nad5_pos2+nad6_pos2</i>	TVM+F+I+G4
	P3	<i>atp6_pos3+atp8_pos3+cob_pos3+cox1_pos3+cox2_pos3+cox3_pos3+nad2_pos3+nad3_pos3+nad6_pos3</i>	TPM3+F+I+G4
	P4	<i>atp8_pos1+atp8_pos2+nad2_pos1+nad3_pos1+nad6_pos1</i>	GTR+F+I+G4
	P5	<i>nad1_pos1+nad4_pos1+nad4L_pos1+nad5_pos1</i>	GTR+F+I+G4
	P6	<i>nad1_pos3+nad4_pos3+nad4L_pos3+nad5_pos3</i>	K3Pu+F+I+G4
P123RNA	P1	<i>atp6_pos1+cob_pos1+cox1_pos1+cox2_pos1+cox3_pos1</i>	GTR+F+I+G4
	P2	<i>atp6_pos2+cob_pos2+cox1_pos2+cox2_pos2+cox3_pos2+nad1_pos2+nad2_pos2+nad3_pos2+nad4_pos2+nad4L_pos2+nad5_pos2+nad6_pos2</i>	TVM+F+I+G4
	P3	<i>atp6_pos3+atp8_pos3+cob_pos3+cox1_pos3+cox2_pos3+cox3_pos3+nad2_pos3+nad3_pos3+nad6_pos3</i>	TPM3+F+I+G4
	P4	<i>atp8_pos1+atp8_pos2+nad2_pos1+nad3_pos1+nad6_pos1</i>	GTR+F+I+G4
	P5	<i>nad1_pos1+nad4_pos1+nad4L_pos1+nad5_pos1+rrnL+rrnS</i>	TVM+F+I+G4
	P6	<i>nad1_pos3+nad4_pos3+nad4L_pos3+nad5_pos3</i>	K3Pu+F+I+G4
P123AA	P1	<i>atp6+atp8+nad2+nad3+nad6</i>	mtMet+F+I+G4
	P2	<i>cob+cox1+cox2+cox3</i>	mtART+I+G4
	P3	<i>nad1+nad4+nad4L+nad5</i>	mtZOA+F+I+G4