

Table S2. The best model and optimal partitioning strategy selected for the four datasets of ML analysis by ModelFinder.

Dataset	Optimal Partition	Subset Partitions	Best Model
PCG12	Partition1	<i>atp6, cox1, cox2, cox3</i>	GTR+F+R4
	Partition2	<i>atp8, nad2, nad3</i>	GTR+F+I+G4
	Partition3	<i>cytb</i>	GTR+F+I+G4
	Partition4	<i>nad1, nad4L, nad4, nad5</i>	GTR+F+I+G4
	Partition5	<i>nad6</i>	TIM+F+G4
PCG123	Partition1	<i>atp6_codon1, cox1_codon1, cox2_codon1, cox3_codon1, cytb_codon1</i>	GTR+F+R3
	Partition2	<i>atp6_codon2, cox1_codon2, cox2_codon2, cox3_codon2, cytb_codon2</i>	TVM+F+I+G4
	Partition3	<i>atp6_codon3</i>	HKY+F+G4
	Partition4	<i>atp8_codon1, nad2_codon1, nad3_codon1</i>	TIM2+F+I+G4
	Partition5	<i>atp8_codon2, nad2_codon2, nad3_codon2, nad6_codon2</i>	TVM+F+G4
	Partition6	<i>atp8_codon3</i>	TPM2u+F+R2
	Partition7	<i>cox1_codon3, cox2_codon3</i>	HKY+F+R3
	Partition8	<i>cox3_codon3</i>	TIM2+F+G4
	Partition9	<i>cytb_codon3</i>	TN+F+G4
	Partition10	<i>nad1_codon1, nad4L_codon1, nad4_codon1, nad5_codon1</i>	TVM+F+I+G4
	Partition11	<i>nad1_codon2, nad4L_codon2, nad4_codon2, nad5_codon2</i>	GTR+F+I+G4
	Partition12	<i>nad1_codon3, nad4_codon3</i>	TVM+F+R3
	Partition13	<i>nad2_codon3</i>	TN+F+G4
	Partition14	<i>nad3_codon3</i>	TPM2+F+R2
	Partition15	<i>nad4L_codon3</i>	HKY+F+R2
	Partition16	<i>nad5_codon3</i>	TPM3+F+R3
	Partition17	<i>nad6_codon1</i>	TIM2+F+I+G4
	Partition18	<i>nad6_codon3</i>	HKY+F+G4
PCG12R	Partition1	<i>atp6, cox1, cox2, cox3</i>	GTR+F+R4
	Partition2	<i>atp8, cytb, nad3</i>	GTR+F+I+G4
	Partition3	<i>nad1</i>	GTR+F+I+G4
	Partition4	<i>nad2</i>	GTR+F+I+G4
	Partition5	<i>nad4L, nad4, nad5</i>	GTR+F+I+G4
	Partition6	<i>nad6</i>	GTR+F+I+G4
	Partition7	<i>rrnL, rrnS</i>	GTR+F+I+G4
PCG123R	Partition1	<i>atp6_codon1, cox1_codon1, cox2_codon1, cox3_codon1, cytb_codon1</i>	GTR+F+R3
	Partition2	<i>atp6_codon2, cox1_codon2, cox2_codon2, cox3_codon2, cytb_codon2</i>	TVM+F+I+G4
	Partition3	<i>atp6_codon3</i>	HKY+F+G4

Partition4	<i>atp8_codon1, nad2_codon1, nad3_codon1</i>	TIM2+F+I+G4
Partition5	<i>atp8_codon2, nad2_codon2, nad3_codon2, nad6_codon2</i>	TVM+F+G4
Partition6	<i>atp8_codon3</i>	TPM2u+F+R2
Partition7	<i>cox1_codon3</i>	HKY+F+R3
Partition8	<i>cox2_codon3</i>	HKY+F+R2
Partition9	<i>cox3_codon3</i>	TN+F+G4
Partition10	<i>cytb_codon3</i>	TN+F+G4
Partition11	<i>nad1_codon1, nad4L_codon1, nad4_codon1, nad5_codon1, rrnS</i>	TVM+F+I+G4
Partition12	<i>nad1_codon2, nad4L_codon2, nad4_codon2, nad5_codon2</i>	GTR+F+I+G4
Partition13	<i>nad1_codon3, nad4_codon3</i>	TPM3u+F+R3
Partition14	<i>nad2_codon3</i>	TN+F+G4
Partition15	<i>nad3_codon3</i>	TPM2u+F+R2
Partition16	<i>nad4L_codon3</i>	HKY+F+R2
Partition17	<i>nad5_codon3</i>	TPM3+F+R3
Partition18	<i>nad6_codon1</i>	TIM2+F+I+G4
Partition19	<i>nad6_codon3</i>	HKY+F+G4
Partition20	<i>rrnL</i>	GTR+F+I+G4