

Supplementary Table 1: The unique nucleotide and protein sequences of PRKAG genes identified from 22 different animal species

Nucleotide accession	Protein accession	PRKAG gene	Species	Species abbreviation
XM_015065792.2	XP_014921278.2	PRKAG1 isoform X1	Acinonyx jubatus	AJ
XM_015065791.2	XP_014921277.1	PRKAG1 isoform X2	Acinonyx jubatus	AJ
XM_027051158.1	XP_026906959.1	PRKAG2 isoform X1	Acinonyx jubatus	AJ
XM_027051159.1	XP_026906960.1	PRKAG2 isoform X2	Acinonyx jubatus	AJ
XM_027051160.1	XP_026906961.1	PRKAG2 isoform X3	Acinonyx jubatus	AJ
XM_027051161.1	XP_026906962.1	PRKAG2 isoform X4	Acinonyx jubatus	AJ
XM_027051163.1	XP_026906964.1	PRKAG2 isoform X5	Acinonyx jubatus	AJ
XM_027051164.1	XP_026906965.1	PRKAG2 isoform X6	Acinonyx jubatus	AJ
XM_027051165.1	XP_026906966.1	PRKAG2 isoform X7	Acinonyx jubatus	AJ
XM_027051166.1	XP_026906967.1	PRKAG2 isoform X8	Acinonyx jubatus	AJ
XM_027051168.1	XP_026906969.1	PRKAG2 isoform X9	Acinonyx jubatus	AJ
XM_027051167.1	XP_026906968.1	PRKAG2 isoform X9	Acinonyx jubatus	AJ
XM_027051170.1	XP_026906971.1	PRKAG2 isoform X10	Acinonyx jubatus	AJ
XM_027051169.1	XP_026906970.1	PRKAG2 isoform X10	Acinonyx jubatus	AJ
XM_027050441.1	XP_026906242.1	PRKAG3 isoform X1	Acinonyx jubatus	AJ
XM_027050447.1	XP_026906248.1	PRKAG3 isoform X2	Acinonyx jubatus	AJ
NM_174586.2	NP_777011.2	PRKAG1	Bos taurus	BT
XM_002686979.3	XP_002687025.2	PRKAG2	Bos taurus	BT
XM_024991251.1	XP_024847019.1	PRKAG2 isoform X1	Bos taurus	BT
XM_024991252.1	XP_024847020.1	PRKAG2 isoform X2	Bos taurus	BT
XM_024991253.1	XP_024847021.1	PRKAG2 isoform X3	Bos taurus	BT
XM_005198178.1	XP_005198235.1	PRKAG2 isoform X4	Bos taurus	BT
XM_024991255.1	XP_024847023.1	PRKAG2 isoform X5	Bos taurus	BT
XM_005198180.1	XP_005198237.1	PRKAG2 isoform X6	Bos taurus	BT
XM_024991257.1	XP_024847025.1	PRKAG2 isoform X7	Bos taurus	BT
XM_005198182.1	XP_005198239.1	PRKAG2 isoform X8	Bos taurus	BT
XM_005198183.1	XP_005198240.1	PRKAG2 isoform X9	Bos taurus	BT
XM_024991260.1	XP_024847028.1	PRKAG2 isoform X10	Bos taurus	BT
XM_024991261.1	XP_024847029.1	PRKAG2 isoform X11	Bos taurus	BT
XM_024991262.1	XP_024847030.1	PRKAG2 isoform X12	Bos taurus	BT
NM_001030302.2	NP_001025473.2	PRKAG3 isoform 1	Bos taurus	BT
NM_001162419.1	NP_001155891.1	PRKAG3 isoform 2	Bos taurus	BT
NM_001162420.1	NP_001155892.1	PRKAG3 isoform 3	Bos taurus	BT
NM_001162421.1	NP_001155893.1	PRKAG3 isoform 4	Bos taurus	BT
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XM_005896384.2	XP_005896446.1	PRKAG1 isoform X2	Bos mutus	BM
XM_014482780.1	XP_014338266.1	PRKAG2	Bos mutus	BM
XM_014476368.1	XP_014331854.1	PRKAG3 isoform X1	Bos mutus	BM
XM_005889667.2	XP_005889729.1	PRKAG3 isoform X2	Bos mutus	BM

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XM_025284073.1	XP_025139858.1	PRKAG1 isoform X2	Bubalus bubalis	BB
XM_025291864.1	XP_025147649.1	PRKAG2 isoform X1	Bubalus bubalis	BB
XM_025291865.1	XP_025147650.1	PRKAG2 isoform X2	Bubalus bubalis	BB
XM_025291866.1	XP_025147651.1	PRKAG2 isoform X3	Bubalus bubalis	BB
XM_025291867.1	XP_025147652.1	PRKAG2 isoform X4	Bubalus bubalis	BB
XM_025291868.1	XP_025147653.1	PRKAG2 isoform X5	Bubalus bubalis	BB
XM_025291869.1	XP_025147654.1	PRKAG2 isoform X6	Bubalus bubalis	BB
XM_006077656.2	XP_006077718.1	PRKAG2 isoform X7	Bubalus bubalis	BB
XM_006059018.2	XP_006059080.1	PRKAG3 isoform X1	Bubalus bubalis	BB
XM_006059019.2	XP_006059081.1	PRKAG3 isoform X2	Bubalus bubalis	BB
XM_025278272.1	XP_025134057.1	PRKAG3 isoform X3	Bubalus bubalis	BB
XM_025278274.1	XP_025134059.1	PRKAG3 isoform X4	Bubalus bubalis	BB
XM_006059021.2	XP_006059083.1	PRKAG3 isoform X5	Bubalus bubalis	BB
XM_006059022.2	XP_006059084.1	PRKAG3 isoform X6	Bubalus bubalis	BB
XM_006059023.2	XP_006059085.1	PRKAG3 isoform X7	Bubalus bubalis	BB
XM_006059024.2	XP_006059086.1	PRKAG3 isoform X8	Bubalus bubalis	BB
XM_025278275.1	XP_025134060.1	PRKAG3 isoform X9	Bubalus bubalis	BB
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XM_025452415.1	XP_025308200.1	PRKAG2 isoform X2	Canis lupus (gray wolf)	CL
XM_025452424.1	XP_025308209.1	PRKAG2 isoform X3	Canis lupus (gray wolf)	CL
XM_025452428.1	XP_025308213.1	PRKAG2 isoform X4	Canis lupus (gray wolf)	CL
XM_025452433.1	XP_025308218.1	PRKAG2 isoform X5	Canis lupus (gray wolf)	CL
XM_025452443.1	XP_025308228.1	PRKAG2 isoform X6	Canis lupus (gray wolf)	CL
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XM_025442208.1	XP_025297993.1	PRKAG3 isoform X8	Canis lupus (gray wolf)	CL
XM_025442209.1	XP_025297994.1	PRKAG3 isoform X9	Canis lupus (gray wolf)	CL
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XM_022410935.1	XP_022266643.1	PRKAG1 isoform X2	Canis lupus familiaris	CLF
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XM_022410938.1	XP_022266646.1	PRKAG1 isoform X7	Canis lupus familiaris	CLF
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XM_014119809.2	XP_013975284.1	PRKAG2	Canis lupus familiaris	CLF
XM_014111094.2	XP_013966569.1	PRKAG3 isoform X1	Canis lupus familiaris	CLF

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XM_005679665.1	XP_005679722.1	PRKAG2 isoform X2	Capra hircus	CH
XM_018046690.1	XP_017902179.1	PRKAG2 isoform X3	Capra hircus	CH
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XM_018046691.1	XP_017902180.1	PRKAG2 isoform X4	Capra hircus	CH
XM_018046692.1	XP_017902181.1	PRKAG2 isoform X5	Capra hircus	CH
XM_018046693.1	XP_017902182.1	PRKAG2 isoform X6	Capra hircus	CH
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XM_013971645.2	XP_013827099.2	PRKAG3 isoform X5	Capra hircus	CH
XM_013971651.2	XP_013827105.2	PRKAG3 isoform X6	Capra hircus	CH
XM_018054332.1	XP_017909821.1	PRKAG3 isoform X7	Capra hircus	CH
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XM_019031434.1	XP_018886979.1	PRKAG2 isoform X5	Gorilla gorilla	GGO
XM_019031435.1	XP_018886980.1	PRKAG2 isoform X6	Gorilla gorilla	GGO
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NM_002733.4	NP_002724.1	PRKAG1 isoform 1	Homo sapiens	HS
XM_005269019.1	XP_005269076.1	PRKAG1 isoform X1	Homo sapiens	HS
NM_001206709.1	NP_001193638.1	PRKAG1 isoform 3	Homo sapiens	HS
NM_001206710.1	NP_001193639.1	PRKAG1 isoform 4	Homo sapiens	HS
NM_016203.3	NP_057287.2	PRKAG2 isoform a	Homo sapiens	HS
NM_024429.1	NP_077747.1	PRKAG2 isoform b	Homo sapiens	HS
NM_001040633.1	NP_001035723.1	PRKAG2 isoform c	Homo sapiens	HS

NM_001304527.1	NP_001291456.1	PRKAG2 isoform d	Homo sapiens	HS
XM_011516282.1	XP_011514584.1	PRKAG2 isoform X2	Homo sapiens	HS
XM_005250002.1	XP_005250059.1	PRKAG2 isoform X3	Homo sapiens	HS
XM_011516283.1	XP_011514585.1	PRKAG2 isoform X4	Homo sapiens	HS
XM_011516284.1	XP_011514586.1	PRKAG2 isoform X5	Homo sapiens	HS
XM_024446786.1	XP_024302554.1	PRKAG2 isoform X6	Homo sapiens	HS
XM_005250004.1	XP_005250061.1	PRKAG2 isoform X6	Homo sapiens	HS
XM_017012268.2	XP_016867757.1	PRKAG2 isoform X7	Homo sapiens	HS
XM_017012269.1	XP_016867758.1	PRKAG2 isoform X8	Homo sapiens	HS
XM_017012270.1	XP_016867759.1	PRKAG2 isoform X9	Homo sapiens	HS
XM_017012272.1	XP_016867761.1	PRKAG2 isoform X10	Homo sapiens	HS
XM_017012271.2	XP_016867760.1	PRKAG2 isoform X10	Homo sapiens	HS
XM_005250006.1	XP_005250063.1	PRKAG2 isoform X11	Homo sapiens	HS
NM_017431.2	NP_059127.2	PRKAG3	Homo sapiens	HS
XM_005246645.1	XP_005246702.1	PRKAG3 isoform X1	Homo sapiens	HS
NM_016781.2	NP_058061.2	PRKAG1	Mus musculus	MM
XM_006520625.1	XP_006520688.1	PRKAG1 isoform X1	Mus musculus	MM
NM_145401.2	NP_663376.2	PRKAG2 isoform 1	Mus musculus	MM
NM_001170555.1	NP_001164026.1	PRKAG2 isoform 2	Mus musculus	MM
NM_001170556.1	NP_001164027.1	PRKAG2 isoform 3	Mus musculus	MM
NM_001310480.1	NP_001297409.1	PRKAG2 isoform 4	Mus musculus	MM
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XM_006535612.1	XP_006535675.1	PRKAG2 isoform X2	Mus musculus	MM
XM_017320595.1	XP_017176084.1	PRKAG2 isoform X3	Mus musculus	MM
XM_006535614.3	XP_006535677.1	PRKAG2 isoform X4	Mus musculus	MM
XM_017320596.1	XP_017176085.1	PRKAG2 isoform X5	Mus musculus	MM
XM_011249740.1	XP_011248042.1	PRKAG2 isoform X6	Mus musculus	MM
NM_153744.3	NP_714966.1	PRKAG3	Mus musculus	MM
XM_006495988.1	XP_006496051.1	PRKAG3 isoform X1	Mus musculus	MM
XM_006495989.1	XP_006496052.1	PRKAG3 isoform X2	Mus musculus	MM
XM_012161850.2	XP_012017240.1	PRKAG1	Ovis aries	OVA
XM_004006385.1	XP_004006434.1	PRKAG1	Ovis aries	OVA
XM_015095457.1	XP_014950943.1	PRKAG2 isoform X1	Ovis aries	OVA
XM_015095456.1	XP_014950942.1	PRKAG2 isoform X1	Ovis aries	OVA
XM_012177369.2	XP_012032759.1	PRKAG2 isoform X2	Ovis aries	OVA
XM_012135427.2	XP_011990817.1	PRKAG2 isoform X3	Ovis aries	OVA
XM_012135428.2	XP_011990818.1	PRKAG2 isoform X4	Ovis aries	OVA
XM_012135430.2	XP_011990820.1	PRKAG2 isoform X5	Ovis aries	OVA
XM_012135432.2	XP_011990822.1	PRKAG2 isoform X6	Ovis aries	OVA
XM_012135435.2	XP_011990825.1	PRKAG2 isoform X7	Ovis aries	OVA
XM_012135437.2	XP_011990827.1	PRKAG2 isoform X8	Ovis aries	OVA
XM_012135436.2	XP_011990826.1	PRKAG2 isoform X8	Ovis aries	OVA
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NM_001133437.1	NP_001126909.1	PRKAG2	Pongo abelii	PA
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XM_024249355.1	XP_024105123.1	PRKAG2 isoform X3	Pongo abelii	PA
XM_024249356.1	XP_024105124.1	PRKAG2 isoform X4	Pongo abelii	PA
XM_024249357.1	XP_024105125.1	PRKAG2 isoform X5	Pongo abelii	PA
XM_002812864.3	XP_002812910.2	PRKAG3	Pongo abelii	PA
NM_013010.2	NP_037142.1	PRKAG1	Rattus norvegicus	RN
XM_006257331.1	XP_006257393.1	PRKAG1 isoform X1	Rattus norvegicus	RN
NM_184051.1	NP_908940.1	PRKAG2	Rattus norvegicus	RN
XM_017592729.1	XP_017448218.1	PRKAG2 isoform X1	Rattus norvegicus	RN
XM_017592730.1	XP_017448219.1	PRKAG2 isoform X2	Rattus norvegicus	RN
XM_006235950.1	XP_006236012.1	PRKAG2 isoform X2	Rattus norvegicus	RN
XM_006235949.2	XP_006236011.1	PRKAG2 isoform X3	Rattus norvegicus	RN
XM_006235951.2	XP_006236013.1	PRKAG2 isoform X4	Rattus norvegicus	RN
XM_006235952.2	XP_006236014.1	PRKAG2 isoform X5	Rattus norvegicus	RN
XM_017592731.1	XP_017448220.1	PRKAG2 isoform X6	Rattus norvegicus	RN
XM_017592732.1	XP_017448221.1	PRKAG2 isoform X7	Rattus norvegicus	RN
XM_006235955.1	XP_006236017.2	PRKAG2 isoform X8	Rattus norvegicus	RN
NM_001106921.1	NP_001100391.1	PRKAG3	Rattus norvegicus	RN
NM_001001642.2	NP_001001642.1	PRKAG1	Sus scrofa	SS
XM_005655543.1	XP_005655600.1	PRKAG1 isoform X1	Sus scrofa	SS
XM_021078611.1	XP_020934270.1	PRKAG2 isoform X1	Sus scrofa	SS
XM_021078612.1	XP_020934271.1	PRKAG2 isoform X2	Sus scrofa	SS
XM_021078613.1	XP_020934272.1	PRKAG2 isoform X3	Sus scrofa	SS
XM_021078614.1	XP_020934273.1	PRKAG2 isoform X4	Sus scrofa	SS
XM_021078615.1	XP_020934274.1	PRKAG2 isoform X5	Sus scrofa	SS
XM_021078616.1	XP_020934275.1	PRKAG2 isoform X6	Sus scrofa	SS
XM_021078617.1	XP_020934276.1	PRKAG2 isoform X7	Sus scrofa	SS
XM_021078618.1	XP_020934277.1	PRKAG2 isoform X8	Sus scrofa	SS
XM_005654266.3	XP_005654323.2	PRKAG2 isoform X9	Sus scrofa	SS
XM_021078619.1	XP_020934278.1	PRKAG2 isoform X10	Sus scrofa	SS
XM_021078620.1	XP_020934279.1	PRKAG2 isoform X11	Sus scrofa	SS
NM_214077.1	NP_999242.1	PRKAG3	Sus scrofa	SS
XM_007072970.2	XP_007073032.1	PRKAG1 isoform X1	Panthera tigris	PT
XM_007072971.2	XP_007073033.1	PRKAG1 isoform X2	Panthera tigris	PT
XM_007087527.2	XP_007087589.1	PRKAG2	Panthera tigris	PT
XM_015539254.1	XP_015394740.1	PRKAG3	Panthera tigris	PT
NM_001034827.1	NP_001029999.1	PRKAG1	Gallus gallus	GGA
XM_015273812.2	XP_015129298.2	PRKAG1 isoform X2	Gallus gallus	GGA
NM_001278142.1	NP_001265071.1	PRKAG2 isoform 1	Gallus gallus	GGA
NM_001278143.1	NP_001265072.1	PRKAG2 isoform 2	Gallus gallus	GGA

NM_001030965.2	NP_001026136.1	PRKAG2 isoform 3	Gallus gallus	GGA
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XM_015281206.2	XP_015136692.1	PRKAG2 isoform X2	Gallus gallus	GGA
XM_015281207.2	XP_015136693.1	PRKAG2 isoform X3	Gallus gallus	GGA
XM_015281208.2	XP_015136694.1	PRKAG2 isoform X4	Gallus gallus	GGA
XM_025147159.1	XP_025002927.1	PRKAG2 isoform X5	Gallus gallus	GGA
XM_015281209.2	XP_015136695.1	PRKAG2 isoform X5	Gallus gallus	GGA
XM_025147160.1	XP_025002928.1	PRKAG2 isoform X6	Gallus gallus	GGA
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XM_005160293.4	XP_005160350.1	PRKAG1 isoform X2	Danio rerio	DR
XM_691638.8	XP_696730.4	PRKAG1 isoform X1	Danio rerio	DR
XM_005163300.4	XP_005163357.1	PRKAG1 isoform X2	Danio rerio	DR
XM_687502.9	XP_692594.4	PRKAG1 isoform X3	Danio rerio	DR
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XM_021470213.1	XP_021325888.1	PRKAG2 isoform X1	Danio rerio	DR
XM_009297511.3	XP_009295786.1	PRKAG2 isoform X2	Danio rerio	DR
XM_021470214.1	XP_021325889.1	PRKAG2 isoform X3	Danio rerio	DR
XM_021470215.1	XP_021325890.1	PRKAG2 isoform X4	Danio rerio	DR
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XM_009304510.3	XP_009302785.1	PRKAG3 isoform X1	Danio rerio	DR
XM_010728088.1	XP_010726390.1	PRKAG1-like (LOC104917024)	Meleagris gallopavo	MG
XM_010712373.2	XP_010710675.2	PRKAG2	Meleagris gallopavo	MG
XM_010713624.2	XP_010711926.1	PRKAG3	Meleagris gallopavo	MG
XM_013103564.1	XP_012959018.1	PRKAG2	Anas platyrhynchos	AP
XM_027450396.1	XP_027306197.1	PRKAG2 isoform X1	Anas platyrhynchos	AP
XM_027450397.1	XP_027306198.1	PRKAG2 isoform X2	Anas platyrhynchos	AP
XM_027450398.1	XP_027306199.1	PRKAG2 isoform X3	Anas platyrhynchos	AP
XM_027450399.1	XP_027306200.1	PRKAG2 isoform X4	Anas platyrhynchos	AP
XM_027450400.1	XP_027306201.1	PRKAG2 isoform X5	Anas platyrhynchos	AP
XM_027450401.1	XP_027306202.1	PRKAG2 isoform X6	Anas platyrhynchos	AP
XM_027450402.1	XP_027306203.1	PRKAG2 isoform X7	Anas platyrhynchos	AP
XM_027450403.1	XP_027306204.1	PRKAG2 isoform X8	Anas platyrhynchos	AP
XM_027461283.1	XP_027317084.1	PRKAG3 isoform X1	Anas platyrhynchos	AP
XM_027461284.1	XP_027317085.1	PRKAG3 isoform X2	Anas platyrhynchos	AP
XM_012571382.1	XP_012426836.1	PRKAG2	Taeniopygia guttata	TG
XM_012575987.1	XP_012431441.1	PRKAG2-like (LOC100224918)	Taeniopygia guttata	TG
XM_002191987.1	XP_002192023.1	PRKAG3	Taeniopygia guttata	TG
NM_001103036.1	NP_001096506.1	PRKAG1	Xenopus tropicalis	XTS
XM_012956318.2	XP_012811772.1	PRKAG1 isoform X1	Xenopus tropicalis	XTS

NM_001127939.1	NP_001121411.1	PRKAG2	Xenopus tropicalis	XTS
XM_012964332.2	XP_012819786.1	PRKAG2 isoform X1	Xenopus tropicalis	XTS
XM_012964333.2	XP_012819787.1	PRKAG2 isoform X2	Xenopus tropicalis	XTS
XM_012964334.2	XP_012819788.1	PRKAG2 isoform X3	Xenopus tropicalis	XTS
XM_012964335.2	XP_012819789.1	PRKAG2 isoform X4	Xenopus tropicalis	XTS
NM_001078938.2	NP_001072406.2	PRKAG3	Xenopus tropicalis	XTS
XM_012970548.2	XP_012826002.1	PRKAG3 isoform X1	Xenopus tropicalis	XTS
XM_012970549.2	XP_012826003.1	PRKAG3 isoform X2	Xenopus tropicalis	XTS
NM_001092499.1	NP_001085968.1	PRKAG1; PRKAG1.1	Xenopus laevis	XLS
NM_001366430.1	NP_001353359.1	PRKAG2; PRKAG2.1	Xenopus laevis	XLS
NM_001090026.1	NP_001083495.1	PRKAG2; PRKAG2.s	Xenopus laevis	XLS
XM_018267122.1	XP_018122611.1	PRKAG2-like (LOC108718729)	Xenopus laevis	XLS
NM_001086963.1	NP_001080432.2	PRKAG3	Xenopus laevis	XLS
NM_001112877.1	NP_001106348.1	PRKAG3; PRKAG3.s; PRKAG3-a	Xenopus laevis	XLS

Note: The unique nucleotide and protein sequences of 266 PRKAG genes identified from 22 different animal species. The gene information was retrieved from the genomic databases of NCBI (National Center for Biotechnology Information, USA).

Supplementary Table 2. The parameters of model selection in phylogenetic analyses of animal PPKAG protein sequences by the MEGA software package

Model	Parameter	BIC	AICc	lnL	Invariant	Gamma	Freq A	Freq R	Freq N	Freq D	Freq C	Freq Q	Freq E	Freq G	Freq H	Freq I	Freq L	Freq K	Freq M	Freq F	Freq P	Freq S	Freq T	Freq W	Freq Y	Freq V
WAG+G	180	9838.5107	8414.4932	-4025.6445	n/a	4.5237	0.0866	0.0440	0.0391	0.0570	0.0193	0.0367	0.0581	0.0833	0.0244	0.0485	0.0862	0.0620	0.0195	0.0384	0.0458	0.0695	0.0610	0.0144	0.0353	0.0709
WAG+G+I	181	9848.4397	8416.5290	-4025.6445	0.0000	4.5237	0.0866	0.0440	0.0391	0.0570	0.0193	0.0367	0.0581	0.0833	0.0244	0.0485	0.0862	0.0620	0.0195	0.0384	0.0458	0.0695	0.0610	0.0144	0.0353	0.0709
WAG	179	9866.4203	8450.2963	-4044.5638	n/a	n/a	0.0866	0.0440	0.0391	0.0570	0.0193	0.0367	0.0581	0.0833	0.0244	0.0485	0.0862	0.0620	0.0195	0.0384	0.0458	0.0695	0.0610	0.0144	0.0353	0.0709
JTT+G	180	9868.0000	8443.9825	-4040.3892	n/a	4.2164	0.0769	0.0511	0.0425	0.0513	0.0203	0.0411	0.0618	0.0747	0.0230	0.0526	0.0911	0.0595	0.0234	0.0405	0.0505	0.0682	0.0585	0.0143	0.0323	0.0664
WAG+I	180	9876.3491	8452.3317	-4044.5637	0.0000	n/a	0.0866	0.0440	0.0391	0.0570	0.0193	0.0367	0.0581	0.0833	0.0244	0.0485	0.0862	0.0620	0.0195	0.0384	0.0458	0.0695	0.0610	0.0144	0.0353	0.0709
JTT+G+I	181	9877.9290	8446.0183	-4040.3892	0.0000	4.2164	0.0769	0.0511	0.0425	0.0513	0.0203	0.0411	0.0618	0.0747	0.0230	0.0526	0.0911	0.0595	0.0234	0.0405	0.0505	0.0682	0.0585	0.0143	0.0323	0.0664
LG+G	180	9881.7111	8457.6936	-4047.2447	n/a	3.9697	0.0791	0.0559	0.0420	0.0531	0.0129	0.0408	0.0716	0.0573	0.0224	0.0622	0.0991	0.0646	0.0230	0.0423	0.0440	0.0612	0.0533	0.0121	0.0342	0.0691
LG+G+I	181	9891.6401	8459.7294	-4047.2447	0.0000	3.9697	0.0791	0.0559	0.0420	0.0531	0.0129	0.0408	0.0716	0.0573	0.0224	0.0622	0.0991	0.0646	0.0230	0.0423	0.0440	0.0612	0.0533	0.0121	0.0342	0.0691
JTT	179	9901.0844	8484.9604	-4061.8959	n/a	n/a	0.0769	0.0511	0.0425	0.0513	0.0203	0.0411	0.0618	0.0747	0.0230	0.0526	0.0911	0.0595	0.0234	0.0405	0.0505	0.0682	0.0585	0.0143	0.0323	0.0664
JTT+I	180	9911.2548	8487.2374	-4062.0166	0.0000	n/a	0.0769	0.0511	0.0425	0.0513	0.0203	0.0411	0.0618	0.0747	0.0230	0.0526	0.0911	0.0595	0.0234	0.0405	0.0505	0.0682	0.0585	0.0143	0.0323	0.0664
LG	179	9918.7117	8502.5877	-4070.7095	n/a	n/a	0.0791	0.0559	0.0420	0.0531	0.0129	0.0408	0.0716	0.0573	0.0224	0.0622	0.0991	0.0646	0.0230	0.0423	0.0440	0.0612	0.0533	0.0121	0.0342	0.0691
rtREV+G	180	9922.5346	8498.5171	-4067.6565	n/a	4.2164	0.0646	0.0453	0.0376	0.0422	0.0114	0.0606	0.0607	0.0639	0.0273	0.0679	0.1018	0.0751	0.0150	0.0287	0.0681	0.0488	0.0622	0.0251	0.0318	0.0619
LG+I	180	9928.6407	8504.6232	-4070.7095	0.0000	n/a	0.0791	0.0559	0.0420	0.0531	0.0129	0.0408	0.0716	0.0573	0.0224	0.0622	0.0991	0.0646	0.0230	0.0423	0.0440	0.0612	0.0533	0.0121	0.0342	0.0691
rtREV+G+I	181	9932.4636	8500.5529	-4067.6565	0.0000	4.2164	0.0646	0.0453	0.0376	0.0422	0.0114	0.0606	0.0607	0.0639	0.0273	0.0679	0.1018	0.0751	0.0150	0.0287	0.0681	0.0488	0.0622	0.0251	0.0318	0.0619
Dayhoff+G	180	9944.9559	8520.9385	-4078.8671	n/a	3.8518	0.0871	0.0409	0.0404	0.0469	0.0335	0.0383	0.0495	0.0886	0.0336	0.0369	0.0854	0.0805	0.0148	0.0398	0.0507	0.0696	0.0585	0.0105	0.0299	0.0647
Dayhoff+G+I	181	9954.9403	8523.0296	-4078.8671	0.0000	3.8907	0.0871	0.0409	0.0404	0.0469	0.0335	0.0383	0.0495	0.0886	0.0336	0.0369	0.0854	0.0805	0.0148	0.0398	0.0507	0.0696	0.0585	0.0105	0.0299	0.0647
rtREV	179	9956.4594	8540.3353	-4089.5834	n/a	n/a	0.0646	0.0453	0.0376	0.0422	0.0114	0.0606	0.0607	0.0639	0.0273	0.0679	0.1018	0.0751	0.0150	0.0287	0.0681	0.0488	0.0622	0.0251	0.0318	0.0619
rtREV+I	180	9967.0431	8543.0257	-4089.9107	0.0000	n/a	0.0646	0.0453	0.0376	0.0422	0.0114	0.0606	0.0607	0.0639	0.0273	0.0679	0.1018	0.0751	0.0150	0.0287	0.0681	0.0488	0.0622	0.0251	0.0318	0.0619
Dayhoff	179	9981.5271	8565.4031	-4102.1172	n/a	n/a	0.0871	0.0409	0.0404	0.0469	0.0335	0.0383	0.0495	0.0886	0.0336	0.0369	0.0854	0.0805	0.0148	0.0398	0.0507	0.0696	0.0585	0.0105	0.0299	0.0647
cpREV+G	180	9989.1781	8565.1606	-4100.9782	n/a	3.5901	0.0756	0.0621	0.0410	0.0371	0.0091	0.0382	0.0495	0.0838	0.0246	0.0806	0.1011	0.0504	0.0220	0.0506	0.0431	0.0622	0.0543	0.0181	0.0307	0.0660
Dayhoff+I	180	9990.8810	8566.8636	-4101.8297	0.0000	n/a	0.0871	0.0409	0.0404	0.0469	0.0335	0.0383	0.0495	0.0886	0.0336	0.0369	0.0854	0.0805	0.0148	0.0398	0.0507	0.0696	0.0585	0.0105	0.0299	0.0647
cpREV+G+I	181	9999.1071	8567.1964	-4100.9782	0.0000	3.5901	0.0756	0.0621	0.0410	0.0371	0.0091	0.0382	0.0495	0.0838	0.0246	0.0806	0.1011	0.0504	0.0220	0.0506	0.0431	0.0622	0.0543	0.0181	0.0307	0.0660
cpREV	179	10047.7906	8631.6666	-4135.2490	n/a	n/a	0.0756	0.0621	0.0410	0.0371	0.0091	0.0382	0.0495	0.0838	0.0246	0.0806	0.1011	0.0504	0.0220	0.0506	0.0431	0.0622	0.0543	0.0181	0.0307	0.0660
cpREV+I	180	10057.8358	8633.8183	-4135.3071	0.0000	n/a	0.0756	0.0621	0.0410	0.0371	0.0091	0.0382	0.0495	0.0838	0.0246	0.0806	0.1011	0.0504	0.0220	0.0506	0.0431	0.0622	0.0543	0.0181	0.0307	0.0660
WAG+G+F	199	10142.5227	8568.5678	-4083.3250	n/a	4.4785	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931

WAG+G+I+F	200	10152.4517	8570.6074	-4083.3250	0.0000	4.4785	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
WAG+F	198	10170.2020	8604.1368	-4102.1291	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
LG+G+F	199	10170.9823	8597.0274	-4097.5548	n/a	3.9300	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
JTT+G+F	199	10172.5870	8598.6321	-4098.3571	n/a	4.1743	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
rtREV+G+F	199	10174.0040	8600.0491	-4099.0656	n/a	4.0503	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
WAG+I+F	199	10180.1310	8606.1761	-4102.1291	0.0000	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
LG+G+I+F	200	10180.9113	8599.0670	-4097.5548	0.0000	3.9300	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
rtREV+G+I+F	200	10183.9335	8602.0892	-4099.0658	0.0000	4.0503	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
JTT+G+I+F	200	10185.3393	8603.4950	-4099.7687	0.0000	4.1325	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
LG+F	198	10209.4468	8643.3815	-4121.7515	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
LG+I+F	199	10220.1686	8646.2136	-4122.1479	0.0000	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
Dayhoff+G+F	199	10230.5047	8656.5498	-4127.3159	n/a	3.8518	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
Dayhoff+G+I+F	200	10240.0382	8658.1938	-4127.1182	0.0038	3.8907	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
Dayhoff+F	198	10265.5408	8699.4756	-4149.7985	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
JTT+F	198	10270.5448	8704.4795	-4152.3005	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
Dayhoff+I+F	199	10274.4136	8700.4587	-4149.2704	0.0048	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
rtREV+F	198	10281.9007	8715.8354	-4157.9784	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
rtREV+I+F	199	10284.2329	8710.2780	-4154.1800	0.0000	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
cpREV+G+F	199	10294.8042	8720.8492	-4159.4657	n/a	3.5901	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
JTT+I+F	199	10304.9600	8731.0051	-4164.5436	0.0048	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
cpREV+G+I+F	200	10306.7401	8724.8958	-4160.4692	0.0000	3.5901	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
mtREV24+G+F	199	10335.5066	8761.5517	-4179.8169	n/a	3.5901	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
mtREV24+G+I+F	200	10345.4356	8763.5912	-4179.8169	0.0000	3.5901	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
cpREV+F	198	10362.8536	8796.7883	-4198.4549	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
cpREV+I+F	199	10376.2941	8802.3392	-4200.2106	0.0007	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
mtREV24+G	180	10395.6196	8971.6022	-4304.1990	n/a	3.5901	0.0720	0.0190	0.0390	0.0190	0.0060	0.0250	0.0240	0.0560	0.0280	0.0870	0.1680	0.0230	0.0530	0.0600	0.0550	0.0720	0.0880	0.0290	0.0330	0.0440
mtREV24+F	198	10396.1125	8830.0472	-4215.0844	n/a	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931
mtREV24+I+F	199	10401.1985	8827.2436	-4212.6629	0.0000	n/a	0.0777	0.0460	0.0404	0.0449	0.0072	0.0370	0.0578	0.0302	0.0365	0.0881	0.1159	0.0716	0.0177	0.0457	0.0499	0.0514	0.0468	0.0087	0.0333	0.0931

mtREV24+G+ I	181	10405. 5487	8973.6 380	- 4304.19 90	0.00 00	3.5901	0.0720	0.0190	0.0390	0.0190	0.0060	0.0250	0.0240	0.0560	0.0280	0.0870	0.1680	0.0230	0.0530	0.0600	0.0550	0.0720	0.0880	0.0290	0.0330	0.0440
mtREV24+I	180	10468. 9269	9044.9 094	- 4340.85 26	0.00 00	n/a	0.0720	0.0190	0.0390	0.0190	0.0060	0.0250	0.0240	0.0560	0.0280	0.0870	0.1680	0.0230	0.0530	0.0600	0.0550	0.0720	0.0880	0.0290	0.0330	0.0440
mtREV24	179	10610. 5703	9194.4 462	- 4416.63 88	n/a	n/a	0.0720	0.0190	0.0390	0.0190	0.0060	0.0250	0.0240	0.0560	0.0280	0.0870	0.1680	0.0230	0.0530	0.0600	0.0550	0.0720	0.0880	0.0290	0.0330	0.0440