

5 S rRNA-like elements

5 S rRNA

	1	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170												
Arabidopsis thaliana	ccGUGA	-g			GCauuGGAUCCAAa	-gagA	GAACUCCAAAUGc			-gA	-ggcuu		-Cauguua	UGGAUAG	Au	CAGG	-uU	GGaGA	CC	-UCUGA	-GAAGUCCAG	caag	--uagaccu	Cga	U	CAGC				
Solanum esculentum	ccGUGA	-c			GCauuGGAUCCAAa	--uaaG	GAACUCCAAAUGc			-aaG	ggcaggauu	-auuUc	cuugac	UGGAUUAAG	Au	CAGG	-aa	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC				
Oryza sativa 1	ccGUGA	-A			GCauuGGAUCC	--aaG	GAACUCCAAAUGc			-guGA	ggc		-uuugaa	UGGAUUAAG	Au	CAGGA	-u	GGGA	GA	-UCUGA	-GAAGUCCAU	caag	--aaugccu	Cg	U	CAGC				
Pinus taeda	ccGUGA	-ca			GCAGaGAUCCAU	--C	GAACUCCAAAGUc			-quGA	gggaagcc	-U	gaugaccc	UGGAUUAAG	Au	CAGG	-u	GGGUGA	CC	-UCUGA	-GAAGUCC	-u	cu	g	ccu	cu	U	CAGC		
Zea mays	ccGUGA	-A			GCauuGGAUCCAUu	-uaaG	GAACUCCAAAUGc			-gaGA	qcuauuuuu	-u	uu	cuugcc	UGGAUUAAG	Au	CAGG	-u	GGGAUGA	CC	-UCUGA	-GAAGUCCAU	caag	--auugccu	Cag	U	CAGC			
Selaginella moellendorffii	cuuGAC				-gucaacACCGAUc	-gauG	GAACUCCGAAGUG			-aaaag	qnuu		-cucca	-GagUAG	Au	uugag	-gc	GGUGA	U	g	cu	g	cu	g	cu	g	cu	U		
Physcomitrella patens	ccagcg	-Aaauccaaaggc			-cuacCAGAUCCAU	--C	GAACUCCGAAGU			-caa	gg		-g	ccuuuuggc	-cGGAUUAAG	U	CggG	-g	uuu	cG	ac	cu	u	g		-ggg	cu	g		
Lactuca sativa	ccGUGA	-A			GCauuGGAUCCAU	-gaA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cgaccu	Ca	U	CAGC			
Solanum esculentum	ccGUGA	-c			GCauuGGAUCCAAa	-uaaG	GAACUCCAAAUGc			-aaG	ggcaggguu	-auuUc	cuugac	UGGAUUAAG	Au	CAGG	-aa	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC				
Vitis vinifera	ccGUGA	-A			GCauuGGAUCCAAa	-gaaG	GAACUCCAAAUGc			-ggGA	ggcuagcauu	-uuuUc	acuuagaa	UGGAUUAAG	Au	CAGG	-c	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cgccu	Ca	U	CAGC				
Medicago truncatula	ccGUGA	-Aa			GCauuGGAUCCAGa	-caaG	GAACUCCAAAUGc			-ggGA	ggcauuuacg	-cuug	gc	cuugg	-UGGAUUAAG	Au	CAGG	-u	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--gau	augccu	Cgg	U	CAGC		
Oryza sativa 2	ccGUGA	-A			GCauuGGAUCC	--aqA	GAACUCCAAAUGc			-gaGA	Aaagcc			UGGAUUAAG	Au	CAGGA	-u	GGGA	GA	-UCUGA	-GAAGUCCAU	caag	--aaugccu	CUU	U	CAGC				
Solanum tuberosum	ccGUGA	-c			GCauuGGAUCCAAa	-uaaG	GAACUCCAAAUGc			-auGA	qccagquau	-auuUc	cuugac	UGGAUUAAG	Au	CAGG	-aa	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC				
Nicotiana tabacum	ccGUGA	-A			GCauuGGAUCCAAa	-uaaG	GAACUCCAAAUGc			-aaG	ggcaggguu	-cuuUc	cuugac	UGGAUUAAG	Au	CAGG	-aa	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC				
Triphysaria pusilla	ccGUGA	-A			GCauuGGAUCCAAa	-uuuaA	GAACUCCAAAUGc			-auGA	ggcauuu	-u	cuugua	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cg	U	CAGC				
Populus trichocarpa	ccGUGA	-A			GCauuGGAUCCAAa	-cagG	GAACUCCAAAUGc			-aaG	ggcuu	-uuu	gg	uag	-UGGAUUAAG	Au	CAGG	-c	UGGA	GA	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cg	U	CAGC			
Cucumis melo	ccGUGA	-A			GCauuGGAUCCAAa	-uuA	GAACUCCAAAUGc			-auGA	ggcugguuuuuug	cg	u	g	u	g	u	g	u	g	u	g	u	g	u	g	u	g		
Helianthus argophyllus	ccGUGA	-g			GCauuGGAUCCAAa	-cagA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-c	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cg	U	CAGC			
Aquilegia formosa x pubescens	ccGUGA	-A			GCauuGGAUCCAUg	-uaCA	GAACUCCAAAUGc			-gaaA	Aagggggcauu	-auu	ag	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cac	U	CAGC			
Phaseolus vulgaris	ccGUGA	-A			GCauuGGAUCCAGa	-caaA	GAACUCCAAAUGc			-acGA	qccagccag	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cag	U	CAGC			
Mesembryanthemum crystallinum	ccGUGA	-A			GCauuGGAUCCAAa	-gau	GAACUCCAAAUGc			-qaaG	qccuuuuuu	-uuu	au	cuugac	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uaaag	ccu	U	CAGC			
Glycine max	ccGUGA	-A			GCauuGGAUCCAGa	-dau	GAACUCCAAAUGc			-ccGA	ggcaacaua	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cag	U	CAGC			
Artemisia annua 1	ccGUGA	-A			GCauuGGAUCCg	-uuA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CggG	-aa	GGGUGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cag	U	CAGC			
Artemisia annua 2	ccGUGA	-A			GCauuGGAUCCGc	-auu	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CggG	-aa	GGGUGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Helianthus tuberosus	ccGUGA	-g			GCauuGGAUCCAA	-cagA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-c	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Carthamus tinctorius	ccGUGA	-g			GCauuGGAUCCAAc	-cagA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Cichorium intybus	ccGUGA	-Aa			GCauuGGAUCCAA	-gaA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Populus nigra	ccGUGA	-A			GCauuGGAUCCAUc	-cagA	GAACUCCAAAUGc			-gaGA	ggcuu	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-c	UGGA	GA	-UCUGA	-GAAGUCCAU	caag	--cgag	ccu	U	CAGC			
Centaura maculosa	ccGUGA	-q			GCauuGGAUCCAAc	-cagA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-c	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Malus x domestica	ccGUGA	-A			GCauuGGAUCCAAc	-caaA	GAACUCCAAAUGc			-gaGA	qquu	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cgag	ccu	U	CAGC			
Populus tremula	ccGUGA	-A			GCauuGGAUCCAUc	-cagA	GAACUCCAAAUGc			-gaGA	ggcuu	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cgag	ccu	U	CAGC			
Zinnia elegans	ccGUGA	-A			GCauuGGAUCCAA	-cagA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-c	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Ca	U	CAGC			
Liriodendron tulipifera	ccGUGA	-A			GCauuGGAUCCAUc	-uaaA	GAACUCCAAAUGc			-gaGguu				UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cuag	ccu	U	CAGC				
Lactuca serriola	ccGUGA	-Aa			GCauuGGAUCCAU	-gaA	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cgaccu	Ca	U	CAGC			
Senecio cambrensis 1	ccGUGA	-A			GCauuGGAUCCAA	-cau	GAACUCCAAAUGc			-gA	gac		-cu	gu	GAU	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cag	U	CAGC			
Senecio cambrensis 2	ccGUGA	-A			GCauuGGAUCCCa	-uagA	GAACUCCAAAUGc			-gA	gag		-cu	gu	GAU	Au	CAGG	-c	UGGA	GA	-UCUGA	-GAAGUCCAU	caag	--u	cau	ccu	Cac	U	CAGC	
Brassica napus	ccGUGA	-q			GCauuGGAUCCAAa	-aaqA	GAACUCCAAAUGc			-qA	qccua		-Ca	gu	uu	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cc	U	CAGC			
Brassica oleracea	ccGUGA	-q			GCauuGGAUCCAAa	-aaqA	GAACUCCAAAUGc			-qA	qccua		-Ca	gu	uu	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uagaccu	Cc	U	CAGC			
Triticum turgidum	ccGUGA	-A			GCauuGGAUCC	-aA	GAACUCCAAAUGc			-cagA	Aagcc		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-ag	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--aaug	ccu	U	CAGC		
Triticum aestivum 1	ccGUGA	-A			GCauuGGAUCC	-aA	GAACUCCAAAUGc			-cagA	Aagcc		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-ag	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--aaug	ccu	U	CAGC		
Triticum aestivum 2	ccGUGA	-A			GCauuGGAUCC	-aA	GAACUCCAAAUGc			-cagA	Aagcc		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-ag	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--aaug	ccu	U	CAGC		
Antirrhinum majus	ccGUGA	-A			GCauuGGAUCCAAc	-gaaA	GAACUCCAAAUGc			-uagA	gguaagcacu	-guu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--ag	ccu	U	CAGC			
Nuphar advena	ccGUGA	-A			GCauuGGAUCCAUa	-uaaA	GAACUCCAAAUGc			-gaGguu	ggugau	-uuu	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--g	uag	au	ccu	U	CAGC	
Euphorbia esula						-aaGAAUCCAAAUGc			-gaGA	ggcaag		-uu	aa	g	cuugaa	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--cuag	ccu	U	CAGC		
Festuca arundinacea 1	ccGUGA	-A			GCauuGGAUCC	-aaA	GAACUCCAAAUGc			-qcaA	Aaagcc		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-ag	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--aaug	ccu	U	CAGC		
Festuca arundinacea 2	ccGUGA	-A			GCauuGGAUCC	-aaA	GAACUCCAAAUGc			-aaGA	aq		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-ag	GGGA	CC	-UCUGA	-GAAGUCCAU	caag	--aaug	ccu	U	CAGC		
Zea mays a	ccGUGA	-A			GCauuGGAUCC	-aaA	GAACUCCAAAUGc			-ga	-uA	Aagcc		-cu	gu	gaa	UGGAUUAAG	Au	CAGGA	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--caug	ccu	U	CAGC	
Zea mays b	ccGUGA	-A			GCauuGGAUc	-aaA	GAACUCCAAAUGc			-ga	-gA	Aag		-cu	gu	gaa	-cGGAUUAAG	Au	CAGGA	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--agu	ccu	U	CAGC	
Saccharum officinarum	ccGUGA	-A			GCauuGGAUCCAUu	-uaaA	GAACUCCAAAUGc			-gcGga	ggcauuuuu	-u	cu	cuugc	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--auug	ccu	U	CAGC			
Hordeum vulgare	ccGUGA	-A			GCauuGGAUCCAU	-uaCA	GAACUCCAAAUGc			-auGA	ggacauuu	-u	au	cuugc	UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--auug	ccu	U	CAGC			
Raphanus raphanistrum	ccGUGA	-g			GCauuGGAUCCc	caaaaaagagu	GAACUCCAAAUGc			-gA	ggc		-u	ca	uuu	-UGGAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--uag	ccu	U	CAGC		
Picea glauca	ccGUGA	-U			GCAGaGAUCCAU	-C	GAACUCCAGUGc			-guGA	gggagggc		-agguu	-GAUUAAG	Au	CAGG	-u	GGGGA	CC	-UCUGA	-GAAGUCCAU	caag	--AntUg	ccu	cu	ccu	U	CAGC		
Arabidopsis thaliana	ggUgGcgau	AU	ccagcagcuaua		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gu	ccu	uag					ccCU	-gg	GAAGUCC	ccG				gUUG	AU	CC	
Lycopersicon esculentum	ggUgGcgau	AU	ccagcagcuaua		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gu	ccu	uag					ccCU	-gg	GAAGUCC	ccG					gUUG	AU	CC
Oryza sativa	ggUgGcgau	AU	ccagcagcuaua		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gu	ccu	uag					ccCU	-gg	GAAGUCC	ccG					gUUG	AU	CC
Pinus silvestris	ggUgGcgau	AU	ccagcagcuaua		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gc	cu	uag					ccCU	-gg	GAAGUCC	ccG					gUUG	AU	CC
Zea mays	ggUgGcgau	AU	ccagcagcuaua		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gu	ccu	uag					ccCU	-gg	GAAGUCC	ccG					gUUG	AU	CC
Selaginella moellendorffii	uuUggguuu	CA	aaucugugacuuag		GCACCcGAUCCAU		-CA	GAACUCCcGA			-u	aaagc	-gu	ccu	uag					ccCU	-gg	GAAGUCC	ccG							