

Data S3. Correlations of *E. purpurea* transcripts with the accumulation of the alkamide, iC4N-12:4 $\Delta^{2E,4E,8Z,10E}$.

SEQUENCE ID	UNIFIED FUNCTIONAL ANNOTATION	Linear correlation
epa_28176	(S)-N-methylcoclaurine 3'-hydroxylase isozyme	0.95
epa_51401	Gene of unknown function	0.95
epa_62338	Glycosyltransferase UGT88A8	0.94
epa_12674	Esterase	0.93
epa_74203	Glycosyltransferase UGT88A9	0.93
epa_560	Fatty acid desaturase 2	0.92
epa_94288	Gene of unknown function	0.92
epa_67872	UPF0497 membrane protein 4	0.92
epa_3491	JmjC domain containing protein	0.91
epa_5314	Glycerophosphodiester phosphodiesterase	0.91
epa_8352	Endoplasmic reticulum 18:1 desaturase	0.91
epa_20699	Delta-12 desaturase	0.91
epa_10189	D-galacturonic acid reductase 1	0.91
epa_45114	Gene of unknown function	0.91
epa_30917	2,4-dienoyl-CoA reductase	0.91
epa_10479	(-)-beta-pinene synthase	0.91
epa_4851	Phosphatidate cytidyltransferase	0.90
epa_152332	Gene of unknown function	0.90
epa_7313	Delta3,5-delta2,4-dienoyl-CoA isomerase, mitochondrial	0.90
epa_154283	Gene of unknown function	0.90
epa_1883	Delta12-fatty acid acetylenase	0.90
epa_11281	Copia-like polyprotein	0.90
epa_74523	Gene of unknown function	0.90
epa_104972	2-heptaprenyl-1,4-naphthoquinone methyltransferase	0.89
epa_57030	Glutathione S-transferase Z1	0.89
epa_45650	AP2/ERF domain-containing transcription factor	0.89
epa_30888	TSJT1	0.89
epa_12540	Delta-12 oleate desaturase	0.89
epa_17744	Gene of unknown function	0.89
epa_11059	Cadinene synthase	0.89
epa_2398	Fatty acid desaturase 2	0.89
epa_9073	Retrotransposon gag protein	0.88
epa_24593	Pol	0.88
epa_30870	Delta-12 fatty acid desaturase	0.88
epa_1254	Conserved gene of unknown function	0.87
epa_4727	Delta-12 fatty acid desaturase	0.87

epa_66641	Carbohydrate oxidase	0.87
epa_49078	Potassium channel tetramerization domain-containing protein	0.87
epa_10519	Embryogenesis-associated protein EMB8	0.87
epa_29815	Integrase	0.87
epa_126159	(S)-N-methylcochlorine 3'-hydroxylase isozyme	0.87
epa_48123	Gene of unknown function	0.86
epa_94610	Gene of unknown function	0.86
epa_83626	Gene of unknown function	0.86
epa_32794	Alcohol dehydrogenase	0.86
epa_134030	LOB domain-containing protein	0.85
epa_19054	Delta-12 fatty acid acetylenase	0.85
epa_7646	MRNA, clone: RTFL01-48-B14	0.85
epa_120381	Integrase	0.84
epa_2466	Delta-12 oleate desaturase	0.83
epa_98382	Gene of unknown function	0.83
epa_817	Conserved gene of unknown function	0.83
epa_4090	MtN19	0.83
epa_433	HEAT repeat family protein	0.83
epa_2463	Undecaprenyl pyrophosphate synthetase family protein	0.82
epa_102812	Delta-12 oleate desaturase	0.82
epa_56037	Potassium channel tetramerization domain-containing protein	0.82
epa_34545	Zinc knuckle containing protein	0.82
epa_14055	Carbohydrate oxidase	0.82
epa_5652	Phosphatidylinositol synthase	0.82
epa_38653	Cytochrome P450	0.82
epa_47038	Gene of unknown function	0.82
epa_57156	Benzoyl CoA benzoic acid benzoyltransferase	0.82
epa_21467	EDA40 (embryo sac development arrest 40)	0.81
epa_5415	Zinc finger (Ran-binding) family protein	0.81
epa_16070	Gene of unknown function	0.81
epa_859	Germacrene A synthase 2	0.81
epa_109410	Hydrolase, hydrolyzing O-glycosyl compounds	0.81
epa_1834	Ubx domain-containing	0.81
epa_11279	Tryptophan decarboxylase	0.80
epa_44400	Conserved gene of unknown function	0.80
epa_102523	Gene of unknown function	0.80
epa_20959	Gene of unknown function	0.79
epa_26999	Mitogen-activated protein kinase kinase kinase	0.79
epa_24667	U3 small nucleolar RNA-associated protein	0.79
epa_103	Alpha-amylase	0.79

epa_16768	Zinc ion binding protein	0.79
epa_52314	K ⁺ channel inward rectifying	0.79
epa_20299	Gene of unknown function	0.79
epa_23694	Gene of unknown function	0.79
epa_24574	Gene of unknown function	0.79
epa_28795	Gene of unknown function	0.79
epa_33091	Triacylglycerol lipase 2	0.79
epa_40512	Heat shock protein 70 (HSP70)-interacting protein	0.79
epa_42375	Integrase	0.79
epa_49079	Gene of unknown function	0.79
epa_57649	Gene of unknown function	0.79
epa_16492	Gene of unknown function	0.79
epa_30645	Gene of unknown function	0.79
epa_33321	Gene of unknown function	0.79
epa_60356	Gene of unknown function	0.79
epa_6070	Vacuolar ATP synthase 21 kDa proteolipid subunit	0.79
epa_62274	Gene of unknown function	0.79
epa_81411	Gene of unknown function	0.79
epa_85413	Pentatricopeptide repeat-containing protein	0.79
epa_93147	Gene of unknown function	0.79
epa_40965	Whole genome shotgun sequence assembly, scaffold_1, strain M	0.79
epa_47749	60S ribosomal protein L10-B	0.79
epa_61023	Gene of unknown function	0.79
epa_64183	Sucrose transporter SUC2	0.79
epa_92846	Gene of unknown function	0.79
epa_57323	Gene of unknown function	0.79
epa_55701	Gene of unknown function	0.79
epa_94076	Gene of unknown function	0.79
epa_50652	Cytochrome P450	0.79
epa_9982	Laccase 90c	0.79
epa_1115	Protein kinase	0.78
epa_16468	LEDI-5c protein	0.78
epa_7949	Plant ubiquilin	0.78
epa_5161	Embryogenesis-associated protein EMB8	0.78
epa_74785	Sulfate transporter	0.78
epa_6381	Oleoyl-acyl carrier protein thioesterase	0.78
epa_55122	Conserved gene of unknown function	0.78
epa_13488	Lyase	0.78
epa_62403	Wound-induced protein	0.78
epa_40331	Gene of unknown function	0.78

epa_30039	Gene of unknown function	0.78
epa_50798	Nucleic acid binding protein	0.78
epa_4770	Cellulose synthase	0.77
epa_41641	Defensin	0.77
epa_66516	Gene of unknown function	0.77
epa_84706	Gene of unknown function	0.77
epa_33067	Gene of unknown function	0.77
epa_32931	Minor allergen Alt a	0.76
epa_2473	ACS2	0.76
epa_59232	Subtilase	0.76
epa_34270	Gene of unknown function	0.76
epa_43760	Cytidine deaminase 1, 2, 7	0.76
epa_15956	Gene of unknown function	0.76
epa_13792	LTRGag-pol-polymerase 3	0.76
epa_4993	ABI3-interacting protein 2-1 protein	0.75
epa_59552	Gene of unknown function	0.75
epa_28243	C3HL domain class transcription factor	0.75
epa_59591	Gene of unknown function	0.75
epa_73877	NAC domain class transcription factor	0.75
epa_148843	Gamma-interferon-inducible lysosomal thiol reductase	0.75
epa_146530	Xylem serine proteinase 1	0.75
epa_39903	Pol polyprotein	0.75
epa_96436	Hydrolase/ protein serine/threonine phosphatase	0.75
epa_84011	Vegetative storage protein, VSP	0.75
epa_8952	Cytochrome P450	0.75
epa_116520	Xylem serine proteinase 1	0.75
epa_94859	Gene of unknown function	0.74
epa_20830	Homeobox-leucine zipper protein ATHB-40	0.74
epa_66517	MRNA, clone: RTFL01-03-H07	0.74
epa_1829	Delta-12 oleate desaturase	0.74
epa_3108	Serine/threonine protein kinase	0.74
epa_19522	Sulfate transporter	0.74
epa_50761	Respiratory burst oxidase	0.74
epa_51676	Chaperone protein DNAj	0.74
epa_59801	Benzoyl CoA benzoic acid benzoyltransferase	0.74
epa_32482	Esterase	0.74
epa_57889	WRKY DNA binding protein	0.74
epa_1866	Signal transducer	0.74
epa_24211	Conserved gene of unknown function	0.74
epa_44256	Desacetoxyvindoline 4-hydroxylase	0.73

epa_73190	Gene of unknown function	0.73
epa_38004	Carbohydrate esterase	0.73
epa_139927	Gene of unknown function	0.73
epa_68452	Gene of unknown function	0.73
epa_77747	Gene of unknown function	0.73
epa_83443	Leucine-rich repeat receptor kinase	0.73
epa_8876	Gene of unknown function	0.73
epa_41313	Cytokinin oxidase	0.73
epa_37766	Binding protein	0.73
epa_35041	Gene of unknown function	0.73
epa_37815	Conserved gene of unknown function	0.73
epa_17278	Glycosyltransferase	0.73
epa_1112	Serine-threonine protein kinase, plant-type	0.73
epa_20903	Gene of unknown function	0.72
epa_22727	EDA40 (embryo sac development arrest 40)	0.72
epa_29079	Zinc finger CCCH domain-containing protein 39	0.72
epa_85443	MuDR family transposase	0.72
epa_10098	Gene of unknown function	0.72
epa_99576	Desacetoxyvindoline 4-hydroxylase	0.72
epa_75050	Gene of unknown function	0.72
epa_128944	Gene of unknown function	0.72
epa_147774	Subtilisin-like serine proteinase	0.72
epa_36810	UPF0497 membrane protein 17	0.72
epa_121085	ATMAP70-2	0.71
epa_54424	Lyase	0.71
epa_2233	Gene of unknown function	0.71
epa_336	Myosin heavy chain, clone	0.71
epa_3827	IBR3 (IBA-RESPONSE 3)	0.71
epa_53782	Pectinesterase-2	0.71
epa_29762	Gene of unknown function	0.71
epa_31336	Gene of unknown function	0.71
epa_37728	Gene of unknown function	0.71
epa_69725	Xylem serine proteinase 1	0.71
epa_8835	Bidirectional sugar transporter SWEET7	0.71
epa_80860	Guanine nucleotide exchange factor	0.71
epa_14758	MYB19	0.71
epa_54455	Gene of unknown function	0.71
epa_69724	Cucumisin-like serine protease	0.71
epa_63977	Beta-glucosidase	0.70
epa_9039	Zinc transporter	0.70

epa_45078	Anthocyanin malonyltransferase homolog	0.70
epa_4888	Chaperone clpb	0.70
epa_29814	Conserved gene of unknown function	0.70
epa_7119	Plant ubiquilin	0.70
epa_44272	Conserved gene of unknown function	0.70
epa_75233	TO45-2	0.70
epa_49412	Gene of unknown function	0.70
epa_14717	Jacalin-like lectin domain containing protein	0.70
epa_27895	Gene of unknown function	0.70
epa_39047	Cytochrome P450	0.70
epa_41039	Gene of unknown function	0.70
epa_40963	Gene of unknown function	0.70