

Table S22: Tukey's post-hoc pairwise contrasts on the significant 3-way interaction (enzyme*supergroup*genomic category). The column contrast indicates the variables being compared with the post-hoc test and the first three columns indicate which factors are fixed (the factor being tested is represented with an asterisk). For each comparison we provide its p-value. Significant p-values are in bold.

Supergroup	Genomic Category	Enzyme	Contrast	t-ratio	p-value
Plants	*	Alfl	Exonic - Intergenic	28.83	<0.001
Plants	*	Alfl	Exonic - Intronic	17.50	<0.001
Plants	*	Alfl	Intergenic - Intronic	-11.34	<0.001
Plants	*	CspCl	Exonic - Intergenic	22.67	<0.001
Plants	*	CspCl	Exonic - Intronic	15.65	<0.001
Plants	*	CspCl	Intergenic - Intronic	-7.02	<0.001
Plants	*	Bael	Exonic - Intergenic	20.47	<0.001
Plants	*	Bael	Exonic - Intronic	11.94	<0.001
Plants	*	Bael	Intergenic - Intronic	-8.53	<0.001
Protostomes	*	Alfl	Exonic - Intergenic	14.70	<0.001
Protostomes	*	Alfl	Exonic - Intronic	12.90	<0.001
Protostomes	*	Alfl	Intergenic - Intronic	-1.79	0.998
Protostomes	*	CspCl	Exonic - Intergenic	16.75	<0.001
Protostomes	*	CspCl	Exonic - Intronic	15.57	<0.001
Protostomes	*	CspCl	Intergenic - Intronic	-1.18	1.000
Protostomes	*	Bael	Exonic - Intergenic	14.24	<0.001
Protostomes	*	Bael	Exonic - Intronic	12.77	<0.001
Protostomes	*	Bael	Intergenic - Intronic	-1.47	1.000
Deuterostomes	*	Alfl	Exonic - Intergenic	19.49	<0.001
Deuterostomes	*	Alfl	Exonic - Intronic	13.77	<0.001
Deuterostomes	*	Alfl	Intergenic - Intronic	-5.72	<0.001
Deuterostomes	*	CspCl	Exonic - Intergenic	19.58	<0.001
Deuterostomes	*	CspCl	Exonic - Intronic	14.84	<0.001
Deuterostomes	*	CspCl	Intergenic - Intronic	-4.74	<0.001
Deuterostomes	*	Bael	Exonic - Intergenic	20.29	<0.001
Deuterostomes	*	Bael	Exonic - Intronic	14.56	<0.001
Deuterostomes	*	Bael	Intergenic - Intronic	-5.73	<0.001
*	Exonic	Alfl	Plants - Protostomes	8.20	<0.001
*	Exonic	Alfl	Plants - Deuterostomes	9.29	<0.001
*	Exonic	Alfl	Protostomes - Deuterostomes	0.09	1.000
*	Exonic	CspCl	Plants - Protostomes	4.03	0.009
*	Exonic	CspCl	Plants - Deuterostomes	5.68	<0.001
*	Exonic	CspCl	Protostomes - Deuterostomes	1.23	1.000
*	Exonic	Bael	Plants - Protostomes	3.96	0.012
*	Exonic	Bael	Plants - Deuterostomes	4.05	0.009
*	Exonic	Bael	Protostomes - Deuterostomes	-0.43	1.000
*	Intergenic	Alfl	Plants - Protostomes	-1.76	0.999
*	Intergenic	Alfl	Plants - Deuterostomes	-2.09	0.962

*	Intergenic	Alfl	Protostomes - Deuterostomes	-0.13	1.000
*	Intergenic	CspCl	Plants - Protostomes	-0.74	1.000
*	Intergenic	CspCl	Plants - Deuterostomes	-1.19	1.000
*	Intergenic	CspCl	Protostomes - Deuterostomes	-0.38	1.000
*	Intergenic	Bael	Plants - Protostomes	-0.86	1.000
*	Intergenic	Bael	Plants - Deuterostomes	-0.88	1.000
*	Intergenic	Bael	Protostomes - Deuterostomes	0.10	1.000
*	Intronic	Alfl	Plants - Protostomes	4.51	0.002
*	Intronic	Alfl	Plants - Deuterostomes	3.34	0.094
*	Intronic	Alfl	Protostomes - Deuterostomes	-1.83	0.997
*	Intronic	CspCl	Plants - Protostomes	3.10	0.187
*	Intronic	CspCl	Plants - Deuterostomes	1.58	1.000
*	Intronic	CspCl	Protostomes - Deuterostomes	-2.02	0.979
*	Intronic	Bael	Plants - Protostomes	3.78	0.022
*	Intronic	Bael	Plants - Deuterostomes	2.51	0.678
*	Intronic	Bael	Protostomes - Deuterostomes	-1.85	0.997
Plants	Exonic	*	Alfl - CspCl	4.74	<0.001
Plants	Exonic	*	Alfl - Bael	6.82	<0.001
Plants	Exonic	*	CspCl - Bael	2.08	0.957
Protostomes	Exonic	*	Alfl - CspCl	-1.89	0.993
Protostomes	Exonic	*	Alfl - Bael	0.28	1.000
Protostomes	Exonic	*	CspCl - Bael	2.16	0.922
Deuterostomes	Exonic	*	Alfl - CspCl	-0.36	1.000
Deuterostomes	Exonic	*	Alfl - Bael	-0.61	1.000
Deuterostomes	Exonic	*	CspCl - Bael	-0.26	1.000
Plants	Intergenic	*	Alfl - CspCl	-1.42	1.000
Plants	Intergenic	*	Alfl - Bael	-1.54	1.000
Plants	Intergenic	*	CspCl - Bael	-0.12	1.000
Protostomes	Intergenic	*	Alfl - CspCl	0.16	1.000
Protostomes	Intergenic	*	Alfl - Bael	-0.18	1.000
Protostomes	Intergenic	*	CspCl - Bael	-0.34	1.000
Deuterostomes	Intergenic	*	Alfl - CspCl	-0.27	1.000
Deuterostomes	Intergenic	*	Alfl - Bael	0.19	1.000
Deuterostomes	Intergenic	*	CspCl - Bael	0.46	1.000
Plants	Intronic	*	Alfl - CspCl	2.89	0.273
Plants	Intronic	*	Alfl - Bael	1.26	1.000
Plants	Intronic	*	CspCl - Bael	-1.63	1.000
Protostomes	Intronic	*	Alfl - CspCl	0.78	1.000
Protostomes	Intronic	*	Alfl - Bael	0.15	1.000
Protostomes	Intronic	*	CspCl - Bael	-0.63	1.000
Deuterostomes	Intronic	*	Alfl - CspCl	0.71	1.000
Deuterostomes	Intronic	*	Alfl - Bael	0.17	1.000
Deuterostomes	Intronic	*	CspCl - Bael	-0.53	1.000