

Group 15.2

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Arath3	M	G	S	Q	R	F	Y	V	F	H	C	D	Q	Y	R	I	I
Arath2	M	G	S	Q	H	F	Y	V	Y	H	C	E	Q	-	R	I	S

Group 15.3

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Medtr	-	-	-	-	-	-	-	-	-	-	M	F	I	A	K	V	G	-	Y	I	K	M	S	-	-	-	V	G	V	I	A	Y	S	Q	-	L	M	L	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T		
Maldo	-	M	N	I	G	V	N	V	K	K	Y	R	I	A	K	E	V	G	-	K	I	L	M	S	-	-	-	V	G	V	I	A	Y	F	H	-	Q	M	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Orysa3	-	M	Y	V	K	V	E	L	K	R	F	R	I	V	K	E	V	G	-	T	I	V	M	N	-	-	-	V	R	I	F	A	Y	Y	Q	-	L	M	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Sacof	-	M	Y	V	K	V	E	L	K	R	F	R	V	V	K	E	V	G	-	R	I	V	M	N	-	-	-	V	R	I	F	A	C	Y	Q	-	L	I	P	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Gosra	-	M	Y	I	T	A	T	T	K	R	Y	R	A	V	K	E	V	G	-	K	I	K	M	S	-	-	-	V	G	V	I	A	Y	Y	Q	-	L	V	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Citpa	-	M	Y	I	A	I	T	L	K	R	Y	R	A	V	K	E	V	G	-	K	I	K	M	S	-	-	-	V	G	V	I	A	Y	Y	Q	-	L	V	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Vitvi	-	M	Y	I	A	V	T	L	K	R	Y	R	A	V	K	E	V	G	-	K	I	K	M	S	-	-	-	V	G	I	I	A	H	Y	Q	-	L	M	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Arath1	-	M	C	I	V	G	N	K	K	G	N	R	S	L	K	E	I	G	-	T	F	M	M	T	-	-	-	T	C	F	I	A	N	Y	Q	-	S	V	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Orysa2	-	M	C	V	G	F	N	G	-	-	R	S	L	P	K	T	-	-	-	V	V	M	T	-	-	-	-	S	G	A	V	A	Y	Y	R	L	M	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T		
Orysa1	-	M	C	I	G	F	Q	G	S	R	R	S	S	S	E	T	S	A	A	D	A	V	M	R	-	-	-	S	G	A	I	A	Y	Y	H	T	L	T	K	V	C	Q	A	E	Y	F	R	H	L	L	K	P	V	T	
Arath4	M	V	C	Q	S	A	G	Q	T	R	F	R	T	L	K	H	E	H	-	G	I	T	G	-	-	N	I	V	R	V	I	A	C	F	Q	-	P	L	Q	D	C	Q	A	E	Y	F	R	Q	L	L	K	P	V	T	
Orysa4	M	V	W	Q	P	V	A	Q	T	R	F	R	V	F	K	H	E	N	-	G	I	A	-	-	-	-	V	R	V	I	A	C	F	Q	-	P	S	Q	D	C	Q	A	E	Y	F	R	H	L	L	K	P	V	T		
Arath2	M	V	C	Q	S	P	G	Q	T	R	F	R	G	L	K	Y	E	T	-	G	N	A	N	E	S	T	I	V	V	R	V	I	E	C	F	Q	-	P	M	D	N	C	Q	A	E	Y	F	R	L	L	K	P	V	T	
Arath3	M	V	S	Q	S	A	G	Q	T	R	F	R	T	F	K	Y	E	N	-	G	D	S	S	R	P	T	I	V	V	R	V	I	A	C	F	Q	-	P	M	D	N	C	Q	A	E	Y	F	R	H	L	L	K	P	V	T
Adica	M	M	H	R	S	A	R	L	T	R	L	K	T	T	K	H	G	S	-	E	V	S	G	-	-	-	-	K	P	V	M	V	H	R	-	-	-	-	-	C	Q	G	E	Y	F	R	Q	L	L	K	P	I	T		
Welma	-	M	C	Q	A	T	G	T	F	R	I	C	G	A	K	R	R	-	S	V	Q	G	S	I	I	M	T	V	R	T	I	V	V	F	G	-	L	L	Q	V	C	Q	A	E	Y	F	R	Q	L	L	K	P	I	T	

Group 16

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Orysa1	F	F	S	C	H	A	K	Q	F	S	I	F
Orysa2	F	F	S	C	H	A	K	Q	F	S	I	F

Group 17

Arath1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Gosra	M	E	T	D	T	I	-	-	-	K	P	C	D	N	V	V	H	S	R	F	F	R	S	G	F	Y	C	W	G	W	E	F	L	T	A	L	L	L	F	S	-	C	S	A	-	-
Nicbe	M	E	E	T	K	I	I	I	N	R	P	K	N	N	L	V	H	S	M	V	F	L	F	G	F	Y	V	W	D	W	E	F	L	T	A	L	L	L	F	S	-	Y	C	F	F	-
Orysa	M	G	V	E	A	G	-	-	-	G	G	C	G	-	-	-	G	R	A	V	V	T	G	F	Y	V	W	G	W	E	F	L	T	A	L	L	L	F	S	A	T	S	Y			