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Wang, H., Wan, Y., Buchner, P. H., King, R., Ma, H. and Hawkesford, M. J. 2020. Phylogeny and gene expression of the complete NITRATE TRANSPORTER 1/PEPTIDE TRANSPORTER FAMILY (NPF) in *Triticum aestivum* L. *Journal of Experimental Botany*. p. eraa210.

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Table S1. Protein domain analysis of nitrate transporter families in *A*

Gene family	Gene name	Accession genes ID
NPF	AtNPF1.1	AT3G16180.1
	AtNPF1.2	AT1G52190.1
	AtNPF1.3	AT5G11570.1
	AtNPF2.1	AT3G45720.1
	AtNPF2.2	AT3G45690.1
	AtNPF2.3	AT3G45680.1
	AtNPF2.4	AT3G45700.1
	AtNPF2.5	AT3G45710.1
	AtNPF2.6	AT3G45660.1
	AtNPF2.7	AT3G45650.1
	AtNPF2.8	AT5G28470.1
	AtNPF2.9	AT1G18880.1
	AtNPF2.10	AT3G47960.1
	AtNPF2.11	AT5G62680.1
	AtNPF2.12	AT1G27080.1
	AtNPF2.13	AT1G69870.1
	AtNPF2.14	AT1G69860.1
	AtNPF3.1	AT1G68570.1
	AtNPF4.1	AT3G25260.1
	AtNPF4.2	AT3G25280.1
	AtNPF4.3	AT1G59740.1
	AtNPF4.4	AT1G33440.1
	AtNPF4.5	AT1G27040.1
	AtNPF4.6	AT1G69850.1
	AtNPF4.7	AT5G62730.1
	AtNPF5.1	AT2G40460.1
	AtNPF5.2	AT5G46050.1
	AtNPF5.3	AT5G46040.1
	AtNPF5.4	AT3G54450.1
	AtNPF5.5	AT2G38100.1
	AtNPF5.6	AT2G37900.1
	AtNPF5.7	AT3G53960.1
	AtNPF5.8	AT5G14940.1
	AtNPF5.9	AT3G01350.1
	AtNPF5.10	AT1G22540.1
	AtNPF5.11	AT1G72130.1
	AtNPF5.12	AT1G72140.1
	AtNPF5.13	AT1G72125.1
	AtNPF5.14	AT1G72120.1
	AtNPF5.15	AT1G22570.1
	AtNPF5.16	AT1G22550.1
	AtNPF6.1	AT5G13400.1
	AtNPF6.2	AT2G26690.1
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AtNPF7.1	AT5G19640.1	
AtNPF7.2	AT4G21680.1	
AtNPF7.3	AT1G32450.1	

	AtNPF8.1	AT3G54140.1
	AtNPF8.2	AT5G01180.1
	AtNPF8.3	AT2G02040.1
	AtNPF8.4	AT2G02020.1
	AtNPF8.5	AT1G62200.1
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	AtNRT2.2	AT1G08100.1
	AtNRT2.3	AT5G60780.1
	AtNRT2.4	AT5G60770.1
	AtNRT2.5	AT1G12940.1
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(NAR2)		AT5G50200.1
		AT4G24715.1
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	AtCLCd	AT5G26240.1
	AtCLCe	AT4G35440.1
	AtCLCf	AT1G55620.1
	AtCLCg	AT5G33280.1
SLAC/SLAH	AtSLAC1	AT1G12480.1
	AtSLAH2	AT4G27970.1
	AtSLAH3	AT5G24030.1
	AtSLAH4	AT1G62262.1
	AtSLAH5	AT1G62280.1

Arabidopsis

Interpro ID

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Table S2. Wheat *NPF* gene candidates containing protein domain of IPR000109

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4	TraesCS1A02G197600	IPR000109 , IPR020846
5	TraesCS1A02G197700	IPR000109 , IPR020846
6	TraesCS1A02G210900	IPR000109 , IPR020846
7	TraesCS1A02G211000	IPR000109 , IPR018456, IPR020846
8	TraesCS1A02G257400	IPR000109 , IPR020846
9	TraesCS1A02G257800	IPR000109 , IPR020846
10	TraesCS1A02G257900	IPR000109 , IPR020846
11	TraesCS1A02G269400	IPR000109 , IPR018456, IPR020846
12	TraesCS1A02G269500	IPR000109 , IPR018456, IPR020846
13	TraesCS1A02G269600	IPR000109 , IPR020846
14	TraesCS1B02G038700	IPR000109 , IPR018456, IPR020846
15	TraesCS1B02G168000	IPR000109 , IPR020846
16	TraesCS1B02G168100	IPR000109 , IPR020846
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18	TraesCS1B02G212300	IPR000109
19	TraesCS1B02G212400	IPR000109 , IPR020846
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24	TraesCS1B02G268300	IPR000109 , IPR020846
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221	TraesCS5B02G060800	IPR000109 , IPR020846
222	TraesCS5B02G152000	IPR000109 , IPR020846
223	TraesCS5B02G245300	IPR000109 , IPR020846
224	TraesCS5B02G393100	IPR000109 , IPR020846
225	TraesCS5B02G414000	IPR000109 , IPR020846
226	TraesCS5B02G498400	IPR000109 , IPR018456, IPR020846
227	TraesCS5B02G498500	IPR000109 , IPR018456, IPR020846
228	TraesCS5B02G498700	IPR000109 , IPR018456, IPR020846
229	TraesCS5D02G012500	IPR000109 , IPR020846
230	TraesCS5D02G045300	IPR000109 , IPR020846
231	TraesCS5D02G067100	IPR000109 , IPR020846
232	TraesCS5D02G067400	IPR000109 , IPR020846
233	TraesCS5D02G158500	IPR000109 , IPR020846

234	TraesCS5D02G398000	IPR000109 , IPR020846
235	TraesCS5D02G419200	IPR000109 , IPR020846
236	TraesCS5D02G498500	IPR000109 , IPR018456, IPR020846
237	TraesCS5D02G498700	IPR000109 , IPR018456, IPR020846
238	TraesCS5D02G498800	IPR000109 , IPR018456, IPR020846
239	TraesCS6A02G041300	IPR000109 , IPR020846
240	TraesCS6A02G056500	IPR000109 , IPR020846
241	TraesCS6A02G142600	IPR000109 , IPR020846
242	TraesCS6A02G263500	IPR000109 , IPR020846
243	TraesCS6A02G267600	IPR000109 , IPR020846
244	TraesCS6A02G267700	IPR000109 , IPR020846
245	TraesCS6A02G267800	IPR000109 , IPR020846
246	TraesCS6A02G268400	IPR000109 , IPR020846
247	TraesCS6A02G268500	IPR000109 , IPR020846
248	TraesCS6A02G280200	IPR000109 , IPR020846
249	TraesCS6A02G369900	IPR000109 , IPR018456, IPR020846
250	TraesCS6B02G056500	IPR000109 , IPR020846
251	TraesCS6B02G076100	IPR000109 , IPR020846
252	TraesCS6B02G171000	IPR000109 , IPR020846
253	TraesCS6B02G290500	IPR000109 , IPR020846
254	TraesCS6B02G295000	IPR000109 , IPR020846
255	TraesCS6B02G295100	IPR000109 , IPR020846
256	TraesCS6B02G295600	IPR000109 , IPR020846
257	TraesCS6B02G309200	IPR000109 , IPR020846
258	TraesCS6B02G316200	IPR000109 , IPR020846
259	TraesCS6B02G406100	IPR000109 , IPR018456, IPR020846
260	TraesCS6D02G047600	IPR000109 , IPR020846
261	TraesCS6D02G060200	IPR000109 , IPR020846
262	TraesCS6D02G132100	IPR000109 , IPR020846
263	TraesCS6D02G246400	IPR000109 , IPR020846
264	TraesCS6D02G246500	IPR000109 , IPR020846
265	TraesCS6D02G247000	IPR000109 , IPR020846
266	TraesCS6D02G247100	IPR000109 , IPR020846
267	TraesCS6D02G251500	IPR000109 , IPR020846
268	TraesCS6D02G260500	IPR000109 , IPR020846
269	TraesCS6D02G353500	IPR000109 , IPR018456, IPR020846
270	TraesCS7A02G054000	IPR000109 , IPR020846
271	TraesCS7A02G054100	IPR000109 , IPR018456, IPR020846
272	TraesCS7A02G095200	IPR000109 , IPR020846
273	TraesCS7A02G121600	IPR000109 , IPR020846
274	TraesCS7A02G121700	IPR000109 , IPR020846
275	TraesCS7A02G196100	IPR000109 , IPR020846
276	TraesCS7A02G206400	IPR000109 , IPR020846
277	TraesCS7A02G301700	IPR000109 , IPR018456, IPR020846
278	TraesCS7A02G365100	IPR000109 , IPR020846
279	TraesCS7A02G381500	IPR000109 , IPR020846
280	TraesCS7A02G381600	IPR000109 , IPR018456, IPR020846

281	TraesCS7A02G381700	IPR000109 , IPR020846
282	TraesCS7A02G381800	IPR000109 , IPR018456, IPR020846
283	TraesCS7A02G412100	IPR000109 , IPR020846
284	TraesCS7A02G413100	IPR000109 , IPR020846
285	TraesCS7A02G413200	IPR000109 , IPR020846
286	TraesCS7A02G413300	IPR000109 , IPR020846
287	TraesCS7A02G461200	IPR000109 , IPR020846
288	TraesCS7A02G504300	IPR000109 , IPR020846
289	TraesCS7A02G531000	IPR000109 , IPR020846
290	TraesCS7B02G020200	IPR000109 , IPR020846
291	TraesCS7B02G020300	IPR000109 , IPR020846
292	TraesCS7B02G020500	IPR000109 , IPR020846
293	TraesCS7B02G040100	IPR000109 , IPR020846
294	TraesCS7B02G101800	IPR000109 , IPR020846
295	TraesCS7B02G113600	IPR000109 , IPR020846
296	TraesCS7B02G201900	IPR000109 , IPR018456, IPR020846
297	TraesCS7B02G262200	IPR000109 , IPR020846
298	TraesCS7B02G283400	IPR000109 , IPR020846
299	TraesCS7B02G283800	IPR000109 , IPR018456, IPR020846
300	TraesCS7B02G284300	IPR000109 , IPR018456, IPR020846
301	TraesCS7B02G311400	IPR000109 , IPR020846
302	TraesCS7B02G312500	IPR000109 , IPR020846
303	TraesCS7B02G312600	IPR000109 , IPR020846
304	TraesCS7B02G312700	IPR000109 , IPR020846
305	TraesCS7B02G352600	IPR000109
306	TraesCS7B02G362700	IPR000109 , IPR020846
307	TraesCS7D02G049300	IPR000109 , IPR018456, IPR020846
308	TraesCS7D02G049400	IPR000109 , IPR018456, IPR020846
309	TraesCS7D02G076900	IPR000109 , IPR020846
310	TraesCS7D02G091600	IPR000109 , IPR018456, IPR020846
311	TraesCS7D02G119800	IPR000109 , IPR020846
312	TraesCS7D02G119900	IPR000109 , IPR020846
313	TraesCS7D02G120200	IPR000109 , IPR020846
314	TraesCS7D02G139600	IPR000109 , IPR020846
315	TraesCS7D02G197600	IPR000109 , IPR020846
316	TraesCS7D02G209200	IPR000109 , IPR020846
317	TraesCS7D02G297000	IPR000109 , IPR018456, IPR020846
318	TraesCS7D02G357300	IPR000109 , IPR020846
319	TraesCS7D02G377800	IPR000109 , IPR020846
320	TraesCS7D02G377900	IPR000109 , IPR018456, IPR020846
321	TraesCS7D02G378300	IPR000109 , IPR020846
322	TraesCS7D02G405300	IPR000109 , IPR020846
323	TraesCS7D02G406100	IPR000109 , IPR020846
324	TraesCS7D02G406200	IPR000109 , IPR020846
325	TraesCS7D02G406400	IPR000109 , IPR020846
326	TraesCS7D02G449400	IPR000109 , IPR020846
327	TraesCS7D02G491400	IPR000109 , IPR020846

328	TraesCS7D02G518900	IPR000109 , IPR020846
329	TraesCSU02G115500	IPR000109 , IPR018456, IPR020846
330	TraesCSU02G130200	IPR000109 , IPR020846
331	TraesCSU02G207500	IPR000109 , IPR020846
332	TraesCS2A02G007700LC	IPR000109 , IPR020846
333	TraesCS2B02G000100LC	IPR000109 , IPR020846
334	TraesCS2B02G012400LC	IPR000109 , IPR020846
335	TraesCS2B02G275800LC	IPR000109 , IPR020846
336	TraesCS2B02G501100LC	IPR000109 , IPR020846
337	TraesCS2B02G663200LC	IPR000109 , IPR018456, IPR020846
338	TraesCS2B02G913600LC	IPR000109 , IPR020846
339	TraesCS2B02G930100LC	IPR000109 , IPR020846
340	TraesCS2B02G930500LC	IPR000109
341	TraesCS2D02G717900LC	IPR000109 , IPR020846
342	TraesCS2D02G718700LC	IPR000109 , IPR020846
343	TraesCS3A02G533500LC	IPR000109 , IPR020846
344	TraesCS3B02G084600LC	IPR000109 , IPR020846
345	TraesCS3B02G084700LC	IPR000109 , IPR018456, IPR020846
346	TraesCS3B02G474300LC	IPR000109 , IPR020846
347	TraesCS3D02G360100LC	IPR000109 , IPR020846
348	TraesCS3D02G459400LC	IPR000109 , IPR020846
349	TraesCS4A02G444900LC	IPR000109 , IPR020846
350	TraesCS4A02G446900LC	IPR000109 , IPR020846
351	TraesCS4A02G560700LC	IPR000109 , IPR020846
352	TraesCS4A02G587800LC	IPR000109 , IPR020846
353	TraesCS4A02G654600LC	IPR000109 , IPR018456, IPR020846
354	TraesCS5A02G073600LC	IPR000109 , IPR020846
355	TraesCS5A02G369600LC	IPR000109 , IPR020846
356	TraesCS5A02G369800LC	IPR000109
357	TraesCS5A02G543000LC	IPR000109
358	TraesCS5A02G656200LC	IPR000109 , IPR018456, IPR020846
359	TraesCS5D02G087600LC	IPR000109 , IPR020846
360	TraesCS6B02G147600LC	IPR000109 , IPR020846
361	TraesCS7A02G111500LC	IPR000109 , IPR020846
362	TraesCS7A02G117300LC	IPR000109
363	TraesCS7B02G485800LC	IPR000109 , IPR018456, IPR020846
364	TraesCS7D02G669000LC	IPR000109 , IPR020846
365	TraesCSU02G307300LC	IPR000109 , IPR020846

Table S3. List of wheat genes excluded from NPF gene family

No.	Gene ID	Note
1	TraesCS4A02G587800LC	without start codon
2	TraesCS7B02G485800LC	without stop codon
3	TraesCS3B02G084600LC	without start codon
4	TraesCS2B02G000100LC	without start codon
5	TraesCS2B02G913600LC	without start codon
6	TraesCS2D02G718700LC	without start codon
7	TraesCS3B02G474300LC	without start codon
8	TraesCS3D02G360100LC	without start codon
9	TraesCS2B02G663200LC	without start codon
10	TraesCS2B02G501100LC	without start codon
11	TraesCS5A02G073600LC	without start codon; without stop codon
12	TraesCS5D02G087600LC	without start codon
13	TraesCS4A02G560700LC	without start codon
14	TraesCS5A02G369600LC	Proten length (107 aa) < 200 aa; without start codon
15	TraesCS2A02G007700LC	Proten length (117 aa) < 200 aa; without start codon
16	TraesCS7B02G352600	Proten length (121 aa) < 200 aa
17	TraesCS3D02G459400LC	Proten length (130 aa) < 200 aa
18	TraesCS3A02G383300	Proten length (141 aa) < 200 aa
19	TraesCS2B02G930500LC	Proten length (144 aa) < 200 aa
20	TraesCS2B02G000500	Proten length (146 aa) < 200 aa
21	TraesCS2B02G012400LC	Proten length (149 aa) < 200 aa
22	TraesCS2D02G717900LC	Proten length (154 aa) < 200 aa
23	TraesCS3B02G084700LC	Proten length (162 aa) < 200 aa
24	TraesCS6B02G316200	Proten length (164 aa) < 200 aa
25	TraesCS2B02G275800LC	Proten length (173 aa) < 200 aa
26	TraesCS7D02G669000LC	Proten length (183 aa) < 200 aa
27	TraesCS6B02G147600LC	Proten length (193 aa) < 200 aa
28	TraesCSU02G207500	partial sequence of TraesCS4A01G287300
29	TraesCS4A02G446900LC	partial sequence of TraesCS4A01G287300
30	TraesCS4A02G444900LC	partial sequence of TraesCS4A01G287900
31	TraesCS7A02G117300LC	low gene prediction score (29)
32	TraesCS2B02G930100LC	low gene prediction score (25)
33	TraesCS5A02G543000LC	low gene prediction score (21)
34	TraesCS5A02G369800LC	extra stop codon in ORF

Table S4. Classification of *NPF* gene family in wheat

Homoeologous group No.	NPF subfamily	gene name	A genome gene ID
1	NPF1	TaNPF1.1	TraesCS3A02G304400
2		TaNPF1.2	TraesCS3A02G304500
3	NPF2	TaNPF2.1	TraesCS5A02G004400
4		TaNPF2.2	TraesCS5A02G037900
5		TaNPF2.3	TraesCS2A02G045500
6		TaNPF2.4	TraesCS3A02G418700
7		TaNPF2.5	TraesCS3A02G418800
8		TaNPF2.6	TraesCS4A02G283900
9		TaNPF2.7	TraesCS7A02G111500LC
10		TaNPF2.8	#N/A
11		TaNPF2.9	#N/A
12		TaNPF2.10	#N/A
13		TaNPF2.11	TraesCS7A02G121600
14		TaNPF2.12	TraesCS7A02G121700
15		TaNPF2.13	TraesCS5A02G153200
16		TaNPF2.14	TraesCS4A02G440700 TraesCS7A02G054100
17		TaNPF2.15	TraesCS4A02G440400 TraesCS4A02G440500 TraesCS4A02G440600 TraesCS4A02G654600LC TraesCS7A02G054000
18		TaNPF2.16	TraesCS4A02G440300
19	NPF3	TaNPF3.1	TraesCS7A02G206400
20		TaNPF3.2	TraesCS1A02G257900
21		TaNPF3.3	TraesCS1A02G257800
22		TaNPF3.4	TraesCS1A02G257400
23	NPF4	TaNPF4.1	TraesCS7A02G365100
24		TaNPF4.2	TraesCS2A02G309100
25		TaNPF4.3	TraesCS2A02G350000 #N/A
26		TaNPF4.4	TraesCS2A02G264500
27		TaNPF4.5	TraesCS5A02G388000
28		TaNPF4.6	TraesCS2A02G350300
29		TaNPF4.7	TraesCS2A02G350100
30		TaNPF4.8	TraesCS5A02G056100 TraesCS5A02G056200
31		TaNPF4.9	TraesCS4A02G225400
32		TaNPF4.10	TraesCS3A02G272600
33	NPF5	TaNPF5.1	TraesCS7A02G504300
34		TaNPF5.2	TraesCS7A02G461200
35		TaNPF5.3	TraesCS6A02G041300
36		TaNPF5.4	TraesCS5A02G508500
37		TaNPF5.5	TraesCS1A02G150200

38		TaNPF5.6	TraesCS3A02G185600
39		TaNPF5.7	TraesCS1A02G150400
40		TaNPF5.8	TraesCS5A02G485000
41		TaNPF5.9	TraesCS5A02G485200 TraesCS5A02G485300
42		TaNPF5.10	TraesCS7A02G196100
43		TaNPF5.11	TraesCS1A02G269400
44		TaNPF5.12	TraesCS1A02G269500
45		TaNPF5.13	#N/A
46		TaNPF5.14	#N/A #N/A #N/A
47		TaNPF5.15	TraesCS3A02G382100
48		TaNPF5.16	TraesCS3A02G382200
49		TaNPF5.17	TraesCS1A02G269600
50		TaNPF5.18	TraesCS3A02G382700
51		TaNPF5.19	TraesCS3A02G382800
52		TaNPF5.20	TraesCS3A02G382900
53		TaNPF5.21	#N/A
54		TaNPF5.22	TraesCS3A02G383200
55		TaNPF5.23	TraesCS3A02G382300 #N/A
56		TaNPF5.24	TraesCS3A02G382600
57		TaNPF5.25	#N/A
58		TaNPF5.26	TraesCS3A02G382400
59		TaNPF5.27	TraesCS2A02G572100
60		TaNPF5.28	#N/A #N/A
61		TaNPF5.29	TraesCS2A02G565600 #N/A
62		TaNPF5.30	TraesCS2A02G572300
63		TaNPF5.31	TraesCS2A02G572200
64		TaNPF5.32	TraesCS2A02G571800
65		TaNPF5.33	TraesCS2A02G572000
66		TaNPF5.34	TraesCS2A02G571900
67	NPF6	TaNPF6.1	TraesCS7A02G301700
68		TaNPF6.2	TraesCS1A02G210900
69		TaNPF6.3	TraesCS1A02G211000
70		TaNPF6.4	TraesCS5A02G537100 #N/A
71		TaNPF6.5	TraesCS1A02G031300
72		TaNPF6.6	TraesCS5A02G409600
73		TaNPF6.7	TraesCS2A02G335800
74		TaNPF6.8	TraesCS3A02G081100
75	NPF7	TaNPF7.1	TraesCS6A02G263500
76		TaNPF7.2	TraesCS6A02G280200
77		TaNPF7.3	TraesCS6A02G056500

78		TaNPF7.4	TraesCS2A02G443600
79		TaNPF7.5	TraesCS2A02G443700
80		TaNPF7.6	TraesCS1A02G197600
81		TaNPF7.7	TraesCS1A02G197700
82		TaNPF7.8	TraesCS2A02G175600
83		TaNPF7.9	TraesCS6A02G267600 TraesCS6A02G267700 TraesCS6A02G267800 TraesCS6A02G268400 TraesCS6A02G268500
84		TaNPF7.10	TraesCS5A02G546200
85	NPF8	TaNPF8.1	#N/A
86		TaNPF8.2	TraesCS2A02G416800
87		TaNPF8.3	TraesCS3A02G057000
88		TaNPF8.4	TraesCS3A02G056400
89		TaNPF8.5	TraesCS5A02G656200LC
90		TaNPF8.6	TraesCS3A02G392800 TraesCS3A02G392900 TraesCS3A02G533500LC
91		TaNPF8.7	TraesCS7A02G095200
92		TaNPF8.8	#N/A
93		TaNPF8.9	TraesCS4A02G262700
94		TaNPF8.10	TraesCS4A02G076100
95		TaNPF8.11	TraesCS4A02G076200
96		TaNPF8.12	TraesCS4A02G075900
97		TaNPF8.13	TraesCS7A02G531000
98		TaNPF8.14	TraesCS4A02G075700
99		TaNPF8.15	TraesCS4A02G076000
100		TaNPF8.16	TraesCS2A02G007500
101		TaNPF8.17	#N/A
102		TaNPF8.18	TraesCS2A02G007100
103		TaNPF8.19	TraesCS6A02G369900 #N/A
104		TaNPF8.20	TraesCS7A02G381800
105		TaNPF8.21	TraesCS7A02G381600
106		TaNPF8.22	TraesCS7A02G381700
107		TaNPF8.23	TraesCS7A02G381500
108		TaNPF8.24	TraesCS4A02G287300 TraesCS4A02G287900
109		TaNPF8.25	TraesCS6A02G142600
110		TaNPF8.26	TraesCS7A02G413100
111		TaNPF8.27	TraesCS7A02G413300/TraesCS7A
112		TaNPF8.28	#N/A
113		TaNPF8.29	TraesCS7A02G412100

Note: TraesCS1B02G212300 and TraesCS1B02G212200 were considered to be TaNPF7.6 (

B genome gene ID	D genome gene ID
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TraesCS5B02G001100	TraesCS5D02G012500
TraesCS5B02G039100	TraesCS5D02G045300
TraesCS2B02G057700	TraesCS2D02G044200
TraesCS3B02G454000	TraesCS3D02G414300
TraesCS3B02G454100	TraesCS3D02G414400
TraesCS4B02G029600	TraesCS4D02G026800
#N/A	#N/A
#N/A	TraesCS7D02G076900
TraesCS2B02G057600	TraesCS2D02G044000
TraesCS7B02G020300	TraesCS7D02G119900
TraesCS7B02G020200	TraesCS7D02G119800
TraesCS7B02G020500	TraesCS7D02G120200
TraesCS5B02G152000	TraesCS5D02G158500
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TraesCS1B02G268200	TraesCS1D02G257100
TraesCS1B02G267900	TraesCS1D02G256700
TraesCS7B02G262200	TraesCS7D02G357300
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TraesCS1B02G280000	TraesCS1D02G269600
TraesCS7B02G040100	TraesCS7D02G139600
TraesCS2B02G248000	#N/A
TraesCS3B02G304500	#N/A
TraesCS4B02G057000	#N/A
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TraesCS3B02G069100	TraesCS3D02G056300
TraesCS4B02G398100	TraesCSU02G115500
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TraesCS7B02G283400	TraesCS7D02G377800
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TraesCS6B02G171000	TraesCS6D02G132100
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TraesCS7B02G312500	TraesCS7D02G406100
TraesCS7B02G311400	TraesCS7D02G405300

1B) as they were corresponding to partial sequences of both

Table S5. Chromosomal location of NPF genes

Group/ Chromosome	TaNPF name	gene ID (IWGSC accession No)
group 1A chr1A:1..594102056 (594.1 Mb)	TaNPF6.5	TraesCS1A02G031300
	TaNPF5.5	TraesCS1A02G150200
	TaNPF5.7	TraesCS1A02G150400
	TaNPF7.6	TraesCS1A02G197600
	TaNPF7.7	TraesCS1A02G197700
	TaNPF6.2	TraesCS1A02G210900
	TaNPF6.3	TraesCS1A02G211000
	TaNPF3.4	TraesCS1A02G257400
	TaNPF3.3	TraesCS1A02G257800
	TaNPF3.2	TraesCS1A02G257900
	TaNPF5.11	TraesCS1A02G269400
	TaNPF5.12	TraesCS1A02G269500
	TaNPF5.17	TraesCS1A02G269600
	group 1B chr1B:1..689851870 (689.85 Mb)	TaNPF6.5
TaNPF5.5		TraesCS1B02G168000
TaNPF5.7		TraesCS1B02G168100
TaNPF7.6*		TraesCS1B02G212200/ TraesCS1B02G212300
TaNPF7.7		TraesCS1B02G212400
TaNPF6.2		TraesCS1B02G224900
TaNPF6.3		TraesCS1B02G225000
TaNPF3.4		TraesCS1B02G267900
TaNPF3.3		TraesCS1B02G268200
TaNPF3.2		TraesCS1B02G268300
TaNPF5.11		TraesCS1B02G279900
TaNPF5.12		TraesCS1B02G280000
TaNPF5.17		TraesCS1B02G280100
group 1D chr1D:1..495453186 (495.45 Mb)		TaNPF6.5
	TaNPF5.5	TraesCS1D02G147200
	TaNPF5.7	TraesCS1D02G147400
	TaNPF7.6	TraesCS1D02G201100
	TaNPF7.7	TraesCS1D02G201200
	TaNPF6.2	TraesCS1D02G214200
	TaNPF6.3	TraesCS1D02G214300
	TaNPF3.4	TraesCS1D02G256700
	TaNPF3.3	TraesCS1D02G257100
	TaNPF3.2	TraesCS1D02G257200
	TaNPF5.11	TraesCS1D02G269500
	TaNPF5.12	TraesCS1D02G269600
	TaNPF5.17	TraesCS1D02G269700
	group 2A chr2A:1..780798557 (780.8 Mb)	TaNPF8.18
TaNPF8.16		TraesCS2A02G007500
TaNPF2.3		TraesCS2A02G045500
TaNPF7.8		TraesCS2A02G175600

	TaNPF4.4	TraesCS2A02G264500
	TaNPF4.2	TraesCS2A02G309100
	TaNPF6.7	TraesCS2A02G335800
	TaNPF4.3	TraesCS2A02G350000
	TaNPF4.7	TraesCS2A02G350100
	TaNPF4.6	TraesCS2A02G350300
	TaNPF8.2	TraesCS2A02G416800
	TaNPF7.4	TraesCS2A02G443600
	TaNPF7.5	TraesCS2A02G443700
	TaNPF5.29	TraesCS2A02G565600
	TaNPF5.32	TraesCS2A02G571800
	TaNPF5.34	TraesCS2A02G571900
	TaNPF5.33	TraesCS2A02G572000
	TaNPF5.27	TraesCS2A02G572100
	TaNPF5.31	TraesCS2A02G572200
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group 2B	TaNPF8.17	TraesCS2B02G013000
chr2B:1..801256715 (801.26 Mb)	TaNPF2.9	TraesCS2B02G057600
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	TaNPF5.14	TraesCS2B02G248000
	TaNPF4.4	TraesCS2B02G277600
	TaNPF4.2	TraesCS2B02G326200
	TaNPF6.7	TraesCS2B02G346100
	TaNPF4.3(I)	TraesCS2B02G368400
	TaNPF4.3(II)	TraesCS2B02G368500
	TaNPF4.7	TraesCS2B02G368600
	TaNPF4.6	TraesCS2B02G368700
	TaNPF7.4	TraesCS2B02G464700
	TaNPF7.5	TraesCS2B02G464900
	TaNPF5.30	TraesCS2B02G615200
	TaNPF5.31	TraesCS2B02G615300
	TaNPF5.33	TraesCS2B02G615400
	TaNPF5.34	TraesCS2B02G615500
	TaNPF5.29(I)	TraesCS2B02G626000
	TaNPF5.28(I)	TraesCS2B02G626100
	TaNPF5.28(II)	TraesCS2B02G626600
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group 2D	TaNPF8.18	TraesCS2D02G009100
chr2D:1..651852609 (651.85 Mb)	TaNPF8.16	TraesCS2D02G009200
	TaNPF2.9	TraesCS2D02G044000
	TaNPF2.3	TraesCS2D02G044200
	TaNPF7.8	TraesCS2D02G182900
	TaNPF4.4	TraesCS2D02G259400
	TaNPF4.2	TraesCS2D02G307400
	TaNPF6.7	TraesCS2D02G327000
	TaNPF4.3	TraesCS2D02G348400
	TaNPF4.7	TraesCS2D02G348500

	TaNPF4.6	TraesCS2D02G348600
	TaNPF8.2	TraesCS2D02G413900
	TaNPF7.4	TraesCS2D02G442700
	TaNPF7.5	TraesCS2D02G442900
	TaNPF5.29	TraesCS2D02G576000
	TaNPF5.32	TraesCS2D02G583300
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	TaNPF5.31	TraesCS2D02G583500
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	TaNPF6.8	TraesCS3A02G081100
	TaNPF5.6	TraesCS3A02G185600
	TaNPF4.10	TraesCS3A02G272600
	TaNPF1.1	TraesCS3A02G304400
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	TaNPF5.15	TraesCS3A02G382100
	TaNPF5.16	TraesCS3A02G382200
	TaNPF5.23	TraesCS3A02G382300
	TaNPF5.26	TraesCS3A02G382400
	TaNPF5.24	TraesCS3A02G382600
	TaNPF5.18	TraesCS3A02G382700
	TaNPF5.19	TraesCS3A02G382800
	TaNPF5.20	TraesCS3A02G382900
	TaNPF5.22	TraesCS3A02G383200
	TaNPF8.6(I)	TraesCS3A02G533500LC
	TaNPF8.6(II)	TraesCS3A02G392800
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	TaNPF2.4	TraesCS3A02G418700
	TaNPF2.5	TraesCS3A02G418800
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chr3B:1..830829764 (830.83 Mb)	TaNPF8.1	TraesCS3B02G069900
	TaNPF8.3	TraesCS3B02G070200
	TaNPF6.8	TraesCS3B02G095900
	TaNPF5.6	TraesCS3B02G215200
	TaNPF5.14	TraesCS3B02G304500
	TaNPF1.2	TraesCS3B02G332000
	TaNPF1.1	TraesCS3B02G332100
	TaNPF5.15	TraesCS3B02G414800
	TaNPF5.16	TraesCS3B02G414900
	TaNPF5.23(I)	TraesCS3B02G415000
	TaNPF5.25	TraesCS3B02G415100
	TaNPF5.23(II)	TraesCS3B02G415200
	TaNPF5.26	TraesCS3B02G415300
	TaNPF5.22	TraesCS3B02G415600
	TaNPF5.21	TraesCS3B02G415700
	TaNPF8.6(I)	TraesCS3B02G424700

	TaNPF8.6(II)	TraesCS3B02G424800
	TaNPF2.4	TraesCS3B02G454000
	TaNPF2.5	TraesCS3B02G454100
group 3D	TaNPF8.4	TraesCS3D02G056300
chr3D:1..615552423 (615.55 Mb)	TaNPF8.3	TraesCS3D02G056700
	TaNPF8.1	TraesCS3D02G057000
	TaNPF6.8	TraesCS3D02G081100
	TaNPF5.6	TraesCS3D02G189500
	TaNPF1.2	TraesCS3D02G297400
	TaNPF1.1	TraesCS3D02G297600
	TaNPF5.20	TraesCS3D02G375200
	TaNPF5.19	TraesCS3D02G375300
	TaNPF5.18	TraesCS3D02G375400
	TaNPF5.24	TraesCS3D02G375500
	TaNPF5.26	TraesCS3D02G375600
	TaNPF5.23	TraesCS3D02G375700
	TaNPF5.16	TraesCS3D02G375800
	TaNPF5.15	TraesCS3D02G375900
	TaNPF5.22	TraesCS3D02G376200
	TaNPF5.21	TraesCS3D02G376300
	TaNPF8.6(I)	TraesCS3D02G385600
	TaNPF8.6(II)	TraesCS3D02G385700
	TaNPF2.4	TraesCS3D02G414300
	TaNPF2.5	TraesCS3D02G414400
group 4A	TaNPF8.14	TraesCS4A02G075700
chr4A:1..744588157 (744.59 Mb)	TaNPF8.12	TraesCS4A02G075900
	TaNPF8.15	TraesCS4A02G076000
	TaNPF8.10	TraesCS4A02G076100
	TaNPF8.11	TraesCS4A02G076200
	TaNPF4.9	TraesCS4A02G225400
	TaNPF8.9	TraesCS4A02G262700
	TaNPF2.6	TraesCS4A02G283900
	TaNPF8.24(I)	TraesCS4A02G287300
	TaNPF8.24(II)	TraesCS4A02G287900
	TaNPF2.16	TraesCS4A02G440300
	TaNPF2.15(I)	TraesCS4A02G440400
	TaNPF2.15(II)	TraesCS4A02G440500
	TaNPF2.15(III)	TraesCS4A02G654600LC
	TaNPF2.15(IV)	TraesCS4A02G440600
	TaNPF2.14	TraesCS4A02G440700
group 4B	TaNPF8.24	TraesCS4B02G026700
chr4B:1..673617499 (673.62 Mb)	TaNPF2.6	TraesCS4B02G029600
	TaNPF8.9	TraesCS4B02G052200
	TaNPF5.14	TraesCS4B02G057000
	TaNPF4.9	TraesCS4B02G090800
	TaNPF8.14	TraesCS4B02G231500
	TaNPF8.12	TraesCS4B02G231700

	TaNPF8.15	TraesCS4B02G231800
	TaNPF8.10	TraesCS4B02G232000
	TaNPF8.11	TraesCS4B02G232100
	TaNPF5.4	TraesCS4B02G338600
	TaNPF6.4(I)	TraesCS4B02G371000
	TaNPF6.4(II)	TraesCS4B02G375800
	TaNPF7.10	TraesCS4B02G380000
	TaNPF8.5	TraesCS4B02G398100
group 4D		
chr4D:1..509857067 (509.86 Mb)	TaNPF8.24	TraesCS4D02G024400
	TaNPF2.6	TraesCS4D02G026800
	TaNPF8.9	TraesCS4D02G052400
	TaNPF4.9	TraesCS4D02G087900
	TaNPF8.14	TraesCS4D02G232900
	TaNPF8.12	TraesCS4D02G233000
	TaNPF8.15	TraesCS4D02G233100
	TaNPF8.10	TraesCS4D02G233300
	TaNPF8.11	TraesCS4D02G233400
	TaNPF5.4	TraesCS4D02G335100
	TaNPF6.4	TraesCS4D02G361500
group 5A		
chr5A:1..709773743 (709.77 Mb)	TaNPF2.1	TraesCS5A02G004400
	TaNPF2.2	TraesCS5A02G037900
	TaNPF4.8(I)	TraesCS5A02G056100
	TaNPF4.8(II)	TraesCS5A02G056200
	TaNPF2.13	TraesCS5A02G153200
	TaNPF4.5	TraesCS5A02G388000
	TaNPF6.6	TraesCS5A02G409600
	TaNPF5.8	TraesCS5A02G485000
	TaNPF5.9(I)	TraesCS5A02G485200
	TaNPF5.9(II)	TraesCS5A02G485300
	TaNPF5.4	TraesCS5A02G508500
	TaNPF8.5	TraesCS5A02G656200LC
	TaNPF6.4	TraesCS5A02G537100
	TaNPF7.10	TraesCS5A02G546200
group 5B		
chr5B:1..713149757 (713.15 Mb)	TaNPF2.1	TraesCS5B02G001100
	TaNPF2.2	TraesCS5B02G039100
	TaNPF4.8(I)	TraesCS5B02G060500
	TaNPF4.8(II)	TraesCS5B02G060800
	TaNPF2.13	TraesCS5B02G152000
	TaNPF8.8	TraesCS5B02G245300
	TaNPF4.5	TraesCS5B02G393100
	TaNPF6.6	TraesCS5B02G414000
	TaNPF5.8	TraesCS5B02G498400
	TaNPF5.9(I)	TraesCS5B02G498500
	TaNPF5.9(II)	TraesCS5B02G498700
group 5D		
chr5D:1..566080677 (566.08 Mb)	TaNPF2.1	TraesCS5D02G012500
	TaNPF2.2	TraesCS5D02G045300
	TaNPF4.8(I)	TraesCS5D02G067100

	TaNPF4.8(II)	TraesCS5D02G067400
	TaNPF2.13	TraesCS5D02G158500
	TaNPF4.5	TraesCS5D02G398000
	TaNPF6.6	TraesCS5D02G419200
	TaNPF5.8	TraesCS5D02G498500
	TaNPF5.9(I)	TraesCS5D02G498700
	TaNPF5.9(II)	TraesCS5D02G498800
group 6A	TaNPF5.3	TraesCS6A02G041300
chr6A:1..618079260 (618.08 Mb)	TaNPF7.3	TraesCS6A02G056500
	TaNPF8.25	TraesCS6A02G142600
	TaNPF7.1	TraesCS6A02G263500
	TaNPF7.9(I)	TraesCS6A02G267600
	TaNPF7.9(II)	TraesCS6A02G267700
	TaNPF7.9(III)	TraesCS6A02G267800
	TaNPF7.9(IV)	TraesCS6A02G268400
	TaNPF7.9(V)	TraesCS6A02G268500
	TaNPF7.2	TraesCS6A02G280200
	TaNPF8.19	TraesCS6A02G369900
group 6B	TaNPF5.3	TraesCS6B02G056500
chr6B:1..720988478 (720.99 Mb)	TaNPF7.3	TraesCS6B02G076100
	TaNPF8.25	TraesCS6B02G171000
	TaNPF7.1	TraesCS6B02G290500
	TaNPF7.9(I)	TraesCS6B02G295000
	TaNPF7.9(II)	TraesCS6B02G295100
	TaNPF7.9(III)	TraesCS6B02G295600
	TaNPF7.2	TraesCS6B02G309200
	TaNPF8.19	TraesCS6B02G406100
group 6D	TaNPF5.3	TraesCS6D02G047600
chr6D:1..473592718 (473.59 Mb)	TaNPF7.3	TraesCS6D02G060200
	TaNPF8.25	TraesCS6D02G132100
	TaNPF7.9(I)	TraesCS6D02G246400
	TaNPF7.9(II)	TraesCS6D02G246500
	TaNPF7.9(III)	TraesCS6D02G247000
	TaNPF7.9(IV)	TraesCS6D02G247100
	TaNPF7.1	TraesCS6D02G251500
	TaNPF7.2	TraesCS6D02G260500
	TaNPF8.19	TraesCS6D02G353500
group 7A	TaNPF2.15	TraesCS7A02G054000
chr7A:1..736706236 (736.71 Mb)	TaNPF2.14	TraesCS7A02G054100
	TaNPF2.7	TraesCS7A02G111500LC
	TaNPF8.7	TraesCS7A02G095200
	TaNPF2.11	TraesCS7A02G121600
	TaNPF2.12	TraesCS7A02G121700
	TaNPF5.10	TraesCS7A02G196100
	TaNPF3.1	TraesCS7A02G206400
	TaNPF6.1	TraesCS7A02G301700
	TaNPF4.1	TraesCS7A02G365100

	TaNPF8.23	TraesCS7A02G381500
	TaNPF8.21	TraesCS7A02G381600
	TaNPF8.22	TraesCS7A02G381700
	TaNPF8.20	TraesCS7A02G381800
	TaNPF8.29	TraesCS7A02G412100
	TaNPF8.26	TraesCS7A02G413100
	TaNPF8.27*	TraesCS7A02G413300/ TraesCS7A02G413200
	TaNPF5.2	TraesCS7A02G461200
	TaNPF5.1	TraesCS7A02G504300
	TaNPF8.13	TraesCS7A02G531000
group 7B	TaNPF2.11	TraesCS7B02G020200
chr7B:1..750620385 (750.62 Mb)	TaNPF2.10	TraesCS7B02G020300
	TaNPF2.12	TraesCS7B02G020500
	TaNPF5.13	TraesCS7B02G040100
	TaNPF5.10	TraesCS7B02G101800
	TaNPF3.1	TraesCS7B02G113600
	TaNPF6.1	TraesCS7B02G201900
	TaNPF4.1	TraesCS7B02G262200
	TaNPF8.23	TraesCS7B02G283400
	TaNPF8.22	TraesCS7B02G283800
	TaNPF8.20	TraesCS7B02G284300
	TaNPF8.29	TraesCS7B02G311400
	TaNPF8.28	TraesCS7B02G312500
	TaNPF8.26	TraesCS7B02G312600
	TaNPF8.27	TraesCS7B02G312700
	TaNPF5.2	TraesCS7B02G362700
group 7D	TaNPF2.15	TraesCS7D02G049300
chr7D:1..638686055 (638.69 Mb)	TaNPF2.14	TraesCS7D02G049400
	TaNPF2.8	TraesCS7D02G076900
	TaNPF8.7	TraesCS7D02G091600
	TaNPF2.11	TraesCS7D02G119800
	TaNPF2.10	TraesCS7D02G119900
	TaNPF2.12	TraesCS7D02G120200
	TaNPF5.13	TraesCS7D02G139600
	TaNPF5.10	TraesCS7D02G197600
	TaNPF3.1	TraesCS7D02G209200
	TaNPF6.1	TraesCS7D02G297000
	TaNPF4.1	TraesCS7D02G357300
	TaNPF8.23	TraesCS7D02G377800
	TaNPF8.22	TraesCS7D02G377900
	TaNPF8.20	TraesCS7D02G378300
	TaNPF8.29	TraesCS7D02G405300
	TaNPF8.28	TraesCS7D02G406100
	TaNPF8.26	TraesCS7D02G406200
	TaNPF8.27	TraesCS7D02G406400
	TaNPF5.2	TraesCS7D02G449400

	TaNPF5.1	TraesCS7D02G491400
	TaNPF8.13	TraesCS7D02G518900

Uncertain chromosome location	TaNPF8.5	TraesCSU02G115500
chrUn:1..480980714 (480.98 Mb)	TaNPF7.10	TraesCSU02G130200
	TaNPF8.18	TraesCSU02G307300LC

Note: As TaNPF7.6 and TaNPF8.27 each were composed of two accessions, the additive region were used to j

chromosome location

14519757..14525659 (+ strand)
257960004..257969311 (+ strand)
258157063..258162400 (+ strand)
355624056..355628073 (+ strand)
355629145..355631608 (+ strand)
373766258..373768702 (+ strand)
373770846..373774884 (- strand)
449623117..449626157 (+ strand)
449811772..449814172 (+ strand)
449820375..449831326 (- strand)
463923731..463928925 (- strand)
463929756..463932776 (- strand)
463958197..463963550 (- strand)

18385559..18387800 (- strand)
297294369..297300980 (+ strand)
297456239..297460628 (+ strand)
385644930..385648470 (+ strand)/
385654520..385655827 (+ strand)
385656513..385659409 (+ strand)
403541134..403544017 (+ strand)
403577989..403582333 (- strand)
470910728..470913989 (+ strand)
471024270..471026692 (+ strand)
471173448..471178201 (- strand)
488395900..488420426 (- strand)
488463731..488466624 (- strand)
488473586..488482853 (- strand)

13040668..13043201 (+ strand)
203427668..203432604 (+ strand)
203469537..203473456 (+ strand)
284040636..284044349 (+ strand)
284046217..284048575 (+ strand)
299575952..299578670 (+ strand)
299581436..299585274 (- strand)
349252928..349256205 (+ strand)
349477670..349480150 (+ strand)
349537241..349541730 (- strand)
365043093..365051550 (- strand)
365063698..365066427 (- strand)
365081860..365086965 (- strand)

3099245..3101998 (+ strand)
3333157..3336110 (- strand)
17869278..17871731 (- strand)
133983836..133987359 (- strand)

419465506..419471926 (+ strand)
532085578..532089723 (- strand)
569901951..569906394 (+ strand)
589781698..589787831 (+ strand)
589788446..589793308 (+ strand)
590636737..590639869 (+ strand)
672944927..672946761 (- strand)
693427744..693430046 (- strand)
693443294..693445920 (- strand)
765052585..765056685 (- strand)
768466047..768469553 (- strand)
768517639..768529222 (+ strand)
768541320..768546773 (+ strand)
768552785..768558129 (+ strand)
768571253..768575767 (+ strand)
768609019..768620741 (+ strand)

6336691..6341938 (+ strand)
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254626140..254628118 (- strand)
383363528..383371254 (- strand)
465825606..465829636 (- strand)
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525562802..525567925 (+ strand)
525815112..525822783 (+ strand)
525824745..525828232 (+ strand)
526378290..526381340 (+ strand)
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659083257..659085942 (- strand)
793353001..793368025 (- strand)
793375123..793380389 (- strand)
793406864..793413063 (- strand)
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446314888..446320496 (+ strand)

446599970..446605379 (+ strand)
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632287877..632290161 (+ strand)
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632730780..632733249 (+ strand)
640624957..640632464 (- strand)
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640748868..640752052 (- strand)
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660507764..660511584 (+ strand)

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488864071..488868344 (- strand)
488872559..488875577 (- strand)
488888267..488891488 (- strand)
488893712..488896141 (- strand)
488902431..488905014 (- strand)
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489645152..489646680 (+ strand)
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665539582..665541850 (+ strand)

6820550..6824003 (- strand)
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62298259..62301412 (+ strand)

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464415850..464439011 (+ strand)
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528294425..528296584 (- strand)
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529889409..529891715 (+ strand)
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349030668..349033236 (+ strand)
350062981..350084251 (- strand)
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368109389..368112589 (- strand)
449226044..449229051 (- strand)

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26239441..26243237 (- strand)
47511366..47513118 (+ strand)
58208435..58213344 (+ strand)
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78463536..78469689 (- strand)
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169020411..169025550 (+ strand)
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556318338..556320821 (+ strand)
556324946..556331710 (+ strand)
556355256..556358298 (- strand)
556479058..556481205 (- strand)
603023754..603026488 (+ strand)
603943547..603946065 (- strand)
603959504..603961150 (- strand)/
603956280..603959434 (- strand)
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692626752..692628899 (+ strand)
709808961..709813387 (- strand)

17662362..17666854 (+ strand)
17842048..17847664 (- strand)
18097198..18103443 (- strand)
40275427..40277728 (- strand)
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131942140..131947791 (+ strand)
369410910..369417347 (- strand)
483225827..483233801 (+ strand)
517623485..517625982 (+ strand)
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556686657..556689262 (+ strand)
558322872..558326014 (- strand)
558363420..558365956 (- strand)
558639959..558643064 (- strand)
624468356..624474640 (- strand)

25288139..25291936 (- strand)
25335220..25338777 (- strand)
45279189..45280139 (+ strand)
54922050..54927058 (- strand)
74417257..74422930 (+ strand)
74446458..74452754 (- strand)
74580968..74587793 (- strand)
89310755..89313048 (- strand)
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167527344..167531170 (+ strand)
374564870..374572229 (- strand)
460655550..460663680 (+ strand)
489153269..489155840 (+ strand)
489158860..489160825 (- strand)
489673028..489675409 (- strand)
522871947..522874464 (+ strand)
523268112..523271588 (- strand)
523275572..523278091 (- strand)
523436256..523439778 (+ strand)
568619247..568624535 (+ strand)

600836846..600839068 (- strand)

617078997..617082760 (- strand)

100089490..100091532 (+ strand)

110527927..110530951 (- strand)

249549797..249552112 (+ strand)

plot the location of TaNPF7.6 and

Supplementary Table S6-A. Choulet et al., 2014 - <http://www.wheat-expression.com/> - RNA-Se

		root_Z10	root_Z13	root_Z39
TaNPF1.1	TraesCS3A02G304400.1	0.011815	0.0066733	0.01730546
	TraesCS3B02G332100.1	0.01272625	0	0
	TraesCS3D02G297600.1	0.0672614	0.0463859	0.0609138
TaNPF1.2	TraesCS3A02G304500.1	0	0	0.011727235
	TraesCS3B02G332000.1	0	0	0
	TraesCS3D02G297400.1	0	0	0.0070741
TaNPF2.1	TraesCS5A02G004400.1	0.0390823	0.03503015	0.0490231
	TraesCS5B02G001100.1	0.17687095	0.05100325	0.065799425
	TraesCS5D02G012500.1	0.1025651	0.0315275	0.00639085
TaNPF2.2	TraesCS5A02G037900.1	0.011976	0.512392	0.4959705
	TraesCS5B02G039100.1	0.02135005	0.0529555	0.00733375
	TraesCS5D02G045300.1	0.7941125	0.9437235	0.677102
TaNPF2.3	TraesCS2A02G045500.1	0	0.0391802	0.04336005
	TraesCS2B02G057700.1	0	0.03343375	0.02601605
	TraesCS2D02G044200.1	0	0.07710935	0.08672
TaNPF2.4	TraesCS3A02G418700.1	0.01859815	0.02802255	0.0218877
	TraesCS3B02G454000.1	0	0	0
	TraesCS3D02G414300.1	0	0	0
TaNPF2.5	TraesCS3A02G418800.1	0	0	0
	TraesCS3B02G454100.1	0.1703425	0.2495961	0.4001736
	TraesCS3D02G414400.1	0.0551175	0	0.01673685
TaNPF2.6	TraesCS4A02G283900.1	64.14695	65.0747	65.70995
	TraesCS4B02G029600.1	75.0601	91.71935	83.87255
	TraesCS4D02G026800.1	102.808	90.6405	93.0632
TaNPF2.7	TraesCS7A02G111500LC.1	0	0	0
TaNPF2.8	TraesCS7D02G076900.1	0	0.02641225	0
TaNPF2.9	TraesCS2B02G057600.1	0.1479495	0.7696345	0.594578
	TraesCS2D02G044000.1	0.09084195	0.4834535	0.4376525
TaNPF2.10	TraesCS7B02G020300.1	0.000106877	1.7810365	1.839385
	TraesCS7D02G119900.1	0.325252	1.416155	1.27627
TaNPF2.11	TraesCS7A02G121600.1	0	0.19441825	0.1204613
	TraesCS7B02G020200.1	0.1338858	0.5642145	0.3382665
	TraesCS7D02G119800.1	2.137855	6.46092	4.94246
TaNPF2.12	TraesCS7A02G121700.1	2.289545	2.5475	2.26477
	TraesCS7B02G020500.1	6.741825	8.868225	8.07555
	TraesCS7D02G120200.1	20.03325	14.8635	14.00755
TaNPF2.13	TraesCS5A02G153200.1	0.1121251	0.319817	0.19241795
	TraesCS5B02G152000.1	0.03906855	0.097491	0.0697582
	TraesCS5D02G158500.1	0	0.034853	0.03865645
TaNPF2.14	TraesCS4A02G440700.1	1.0116035	1.63048	1.848045
	TraesCS7A02G054100.1	0.4889145	0.3259945	0.3289575
	TraesCS7D02G049400.1	0.13427215	0.0258994	0.076553
TaNPF2.15	TraesCS4A02G440400.1	0.8779295	0.717756	0.995315
	TraesCS4A02G440500.1	8.63755	8.938425	9.524965
	TraesCS4A02G440600.1	19.1955	14.465295	12.853045

	TraesCS4A02G654600LC.1	12.589	14.4211	13.09175
	TraesCS7A02G054000.1	0.398718	0	0
	TraesCS7D02G049300.1	17.85695	3.569205	4.19358
TaNPF2.16	TraesCS4A02G440300.1	0	0.1479306	0.0478459
TaNPF3.1	TraesCS7A02G206400.1	0.3086155	0.3238635	0.290125
	TraesCS7B02G113600.1	0.0076719	0	0
	TraesCS7D02G209200.1	0.06503385	0.11240805	0.1032341
TaNPF3.2	TraesCS1A02G257900.1	0.2054895	0.228703	0.34007
	TraesCS1B02G268300.1	0.00695585	0.062099	0.079494515
	TraesCS1D02G257200.1	0.09838	0.275572	0.153348
TaNPF3.3	TraesCS1A02G257800.1	0.132135	0.8969175	0.65707
	TraesCS1B02G268200.1	0.269896	0.986683	1.208745
	TraesCS1D02G257100.1	0.7791625	1.32369	1.270435
TaNPF3.4	TraesCS1A02G257400.1	0.275149	1.032239	0.55368
	TraesCS1B02G267900.1	2.4528	0.788183	0.794399
	TraesCS1D02G256700.1	0.860637	0.5280005	0.7889975
TaNPF4.1	TraesCS7A02G365100.1	3.19524	2.755625	2.321475
	TraesCS7B02G262200.1	2.131645	2.11338	1.860225
	TraesCS7D02G357300.1	2.169125	5.835715	4.81269
TaNPF4.2	TraesCS2A02G309100.1	10.87373	18.027155	19.131165
	TraesCS2B02G326200.1	23.91255	12.49512	12.684475
	TraesCS2D02G307400.1	8.67437	10.701595	11.366145
TaNPF4.3	TraesCS2A02G350000.1	0.055799	0.01917635	0.0534451
	TraesCS2B02G368400.1	0.5814995	0.1401385	0.10076595
	TraesCS2B02G368500.1	0.7206845	0.1006887	0.148045
	TraesCS2D02G348400.1	1.20643	0.1917065	0.178643
TaNPF4.4	TraesCS2A02G264500.1	0.9737535	3.22408	3.04232
	TraesCS2B02G277600.1	5.58314	2.73754	2.855645
	TraesCS2D02G259400.1	0.2115455	0	0.07916785
TaNPF4.5	TraesCS5A02G388000.1	1.58628	0.571196	0.397857
	TraesCS5B02G393100.1	0.2053285	0.069132	0.0461966
	TraesCS5D02G398000.1	0.5456335	0.0295619	0.0271926
TaNPF4.6	TraesCS2A02G350300.1	0.3669225	1.09365	1.04756
	TraesCS2B02G368700.1	0.4500475	0.9467245	1.0221805
	TraesCS2D02G348600.1	0.421694	3.62672	3.357085
TaNPF4.7	TraesCS2A02G350100.1	0.8636515	1.185635	1.444535
	TraesCS2B02G368600.1	2.747345	5.567775	4.97442
	TraesCS2D02G348500.1	1.4363	1.30157	1.55634
TaNPF4.8	TraesCS5A02G056100.1	0.01083125	0	0
	TraesCS5A02G056200.1	0.10934805	0.246111	0.2243605
	TraesCS5B02G060500.1	0	0	0
	TraesCS5B02G060800.1	0	0	0
	TraesCS5D02G067100.1	0	0	0
	TraesCS5D02G067400.1	0.0130715	0.12903	0.10749095
TaNPF4.9	TraesCS4A02G225400.1	1.934035	4.06925	3.447095
	TraesCS4B02G090800.1	1.000774	2.21516	2.33263
	TraesCS4D02G087900.1	1.435135	2.80685	2.683435

TaNPF4.10	TraesCS3A02G272600.1	0	0	0
TaNPf5.1	TraesCS7A02G504300.1	0	0.782725	0.67288
	TraesCS7D02G491400.1	0.02701815	1.18430485	1.0326725
TaNPf5.2	TraesCS7A02G461200.1	0.0738188	0.331478	0.416744
	TraesCS7B02G362700.1	0.07477855	0.887088	0.6067665
TaNPf5.3	TraesCS7D02G449400.1	0.06721685	0.412274	0.3331115
	TraesCS6A02G041300.1	0	0.2605855	0.1703425
	TraesCS6B02G056500.1	0.2107285	0.45119615	0.509644
TaNPf5.4	TraesCS6D02G047600.1	0.0630759	0.309071	0.3707327
	TraesCS5A02G508500.1	0.3257785	0.767252	0.3571845
	TraesCS4B02G338600.1	1.2397	0.5169885	0.6878185
TaNPf5.5	TraesCS4D02G335100.1	0.27971	0.1750265	0.1833995
	TraesCS1A02G150200.1	0.8057365	0.778482	0.743398
	TraesCS1B02G168000.1	0.624424	1.21463	0.934532
TaNPf5.6	TraesCS1D02G147200.1	0.8643005	1.044175	0.869463
	TraesCS3A02G185600.1	0	0	0.00476702
	TraesCS3B02G215200.1	0.471809	0.5831845	0.492961
TaNPf5.7	TraesCS3D02G189500.1	0.698369	0.4654565	0.690222
	TraesCS1A02G150400.1	1.4708	5.053195	4.42861
	TraesCS1B02G168100.1	1.229305	5.427105	4.84662
TaNPf5.8	TraesCS1D02G147400.1	1.226335	7.83844	6.476935
	TraesCS5A02G485000.1	0.11880785	0.9579335	0.8365665
	TraesCS5B02G498400.1	0.08013115	0.9421325	0.756313
TaNPf5.9	TraesCS5D02G498500.1	0.126756	0.915831	0.5868105
	TraesCS5A02G485200.1	4.19765	13.772695	10.79007
	TraesCS5A02G485300.1	0.748649	8.290955	5.49599
TaNPf5.10	TraesCS5B02G498500.1	0.3617925	1.9167615	1.195958
	TraesCS5B02G498700.1	1.408885	6.784235	4.938875
	TraesCS5D02G498700.1	1.539185	6.05592	5.38108
	TraesCS5D02G498800.1	1.34358	5.674	4.275585
TaNPf5.11	TraesCS7A02G196100.1	0.0061708	2.447131	1.6752835
	TraesCS7B02G101800.1	0.0070808	0.1888468	0.0859111
	TraesCS7D02G197600.1	0	0.230942	0.189959
TaNPf5.12	TraesCS1A02G269400.1	0.4701135	0.647049	0.577857
	TraesCS1B02G279900.1	1.1948025	1.57865	1.3333985
	TraesCS1D02G269500.1	0.299615	0.2315755	0.2278415
TaNPf5.13	TraesCS1A02G269500.1	4.469045	6.32448	5.85158
	TraesCS1B02G280000.1	1.76103	2.484895	2.283835
	TraesCS1D02G269600.1	1.92894	2.604285	1.75811
TaNPf5.14	TraesCS7B02G040100.1	0.741074	1.673715	1.6056
	TraesCS7D02G139600.1	0.769873	1.843825	1.7292
TaNPf5.15	TraesCS2B02G248000.1	0	0.01233265	0.0193654
	TraesCS3B02G304500.1	0	0.0176537	0.027601974
	TraesCS4B02G057000.1	0.0113872	0	0
TaNPf5.15	TraesCS3A02G382100.1	4.53408	42.90405	32.2824
	TraesCS3B02G414800.1	4.23604	21.8954	17.19535
	TraesCS3D02G375900.1	3.764935	24.34495	20.12955

TaNPF5.16	TraesCS3A02G382200.1	0.1225735	5.7961065	4.226938
	TraesCS3B02G414900.1	0.290373	12.236327	8.7790085
	TraesCS3D02G375800.1	0.6064205	14.543655	11.63956
TaNPF5.17	TraesCS1A02G269600.1	1.798105	5.19945	3.931925
	TraesCS1B02G280100.1	1.586925	5.31922	4.328855
	TraesCS1D02G269700.1	3.8063	11.07187	9.903485
TaNPF5.18	TraesCS3A02G382700.1	0.473108	0.618075	0.485261
	TraesCS3D02G375400.1	0.17577325	0	0
TaNPF5.19	TraesCS3A02G382800.1	2.225275	2.56598	2.421405
	TraesCS3D02G375300.1	1.062304	0.36154403	0.3801175
TaNPF5.20	TraesCS3A02G382900.1	18.19105	22.786	20.54685
	TraesCS3D02G375200.1	14.7	21.3825	19.79625
TaNPF5.21	TraesCS3B02G415700.1	0.282599	1.0431005	0.9501285
	TraesCS3D02G376300.1	0.2233865	0.328904	0.4041145
TaNPF5.22	TraesCS3A02G383200.1	0.54207	1.2757	1.0248675
	TraesCS3B02G415600.1	0.0130342	0.2083215	0.167799
	TraesCS3D02G376200.1	0.215889	0.3119905	0.568876
TaNPF5.23	TraesCS3A02G382300.1	0.111957	0.7447315	0.65011
	TraesCS3B02G415200.1	0	0.0460941	0
	TraesCS3B02G415000.1	0.417552	1.197474	1.23587
	TraesCS3D02G375700.1	0.547745	1.338535	1.13908
TaNPF5.24	TraesCS3A02G382600.1	0.2417215	0.413477	0.3864375
	TraesCS3D02G375500.1	13.594	10.995345	10.52981
TaNPF5.25	TraesCS3B02G415100.1	0.0234619	0.01316745	0.03098375
TaNPF5.26	TraesCS3A02G382400.1	0.9274295	3.394945	3.430275
	TraesCS3B02G415300.1	5.333075	7.23103	7.209755
	TraesCS3D02G375600.1	1.65945	3.148695	3.537335
TaNPF5.27	TraesCS2A02G572100.1	0.02675455	0.0223356	0.01514345
TaNPF5.28	TraesCS2B02G626100.1	0.0182897	0	0.0336321
	TraesCS2B02G626600.1	1.178395	0.6565995	0.4411005
TaNPF5.29	TraesCS2A02G565600.1	0.9868055	0.51404085	0.691155004
	TraesCS2B02G626000.1	3.44409	3.322255	3.446425
	TraesCS2B02G626700.1	2.38178	1.115686	0.9710255
	TraesCS2D02G576000.1	4.008385	1.2503325	1.503411
TaNPF5.30	TraesCS2A02G572300.1	0	0.0303003	0.0500925
	TraesCS2B02G615200.1	0.04095995	0.01212055	0.00569305
	TraesCS2D02G583600.1	3.2888	2.50087	2.501585
TaNPF5.31	TraesCS2A02G572200.1	0.7943485	1.20286	0.938763
	TraesCS2B02G615300.1	1.545435	1.5674905	1.393946
	TraesCS2D02G583500.1	2.59255	3.2519	3.445505
TaNPF5.32	TraesCS2A02G571800.1	0	0	0
	TraesCS2D02G583300.1	0	0	0
TaNPF5.33	TraesCS2A02G572000.1	0.1913405	0.4382815	0.4337935
	TraesCS2B02G615400.1	0.0965344	1.0855455	1.210398
TaNPF5.34	TraesCS2A02G571900.1	0	0	0
	TraesCS2B02G615500.1	0.06158255	0.0478832	0.05315055
	TraesCS2D02G583400.1	0.00373497	0	0.00500245

TaNPF6.1	TraesCS7A02G301700.1	16.99435	21.6155	21.61945
	TraesCS7B02G201900.1	8.859075	19.99685	21.51645
	TraesCS7D02G297000.1	7.683745	13.00675	12.099805
TaNPF6.2	TraesCS1A02G210900.1	0.9462315	7.540275	8.665625
	TraesCS1B02G224900.1	2.22543	20.24268	22.02303
	TraesCS1D02G214200.1	6.798465	24.10685	24.799955
TaNPF6.3	TraesCS1A02G211000.1	2.275085	11.885	10.67325
	TraesCS1B02G225000.1	3.812035	11.767685	12.608925
	TraesCS1D02G214300.1	2.66282	5.093725	5.108955
TaNPF6.4	TraesCS5A02G537100.1	2.616145	1.510483	1.589811
	TraesCS4B02G371000.1	0.5732815	0.273193	0.220779
	TraesCS4B02G375800.1	1.126515	0.3920145	0.4915595
	TraesCS4D02G361500.1	2.40418	0.945695	1.2931105
TaNPF6.5	TraesCS1A02G031300.1	3.079945	1.932815	1.6336
	TraesCS1B02G038700.1	3.153025	0.85272	0.7995405
	TraesCS1D02G032700.1	2.3339	1.16715	0.9139785
TaNPF6.6	TraesCS5A02G409600.1	0.161985	0.5914235	0.8031015
	TraesCS5B02G414000.1	0.0947815	0.145615	0
	TraesCS5D02G419200.1	0.0558395	0.1889555	0.119757
TaNPF6.7	TraesCS2A02G335800.1	0	0	0
	TraesCS2B02G346100.1	0.0125663	0.0100149	0.003482705
	TraesCS2D02G327000.1	0	0	0
TaNPF6.8	TraesCS3A02G081100.1	0	0.244915	1.6361E-10
	TraesCS3B02G095900.1	3.17738	4.183505	2.631855
	TraesCS3D02G081100.1	0	0.9754885	0.622855
TaNPF7.1	TraesCS6A02G263500.1	22.85735	13.75835	14.202255
	TraesCS6B02G290500.1	17.6162	6.311245	6.98209
	TraesCS6D02G251500.1	24.0428	10.65706	10.899185
TaNPF7.2	TraesCS6A02G280200.1	0.01211845	0.06538905	0.0646253
	TraesCS6B02G309200.1	0.160896	1.297093	1.4431415
	TraesCS6D02G260500.1	0.0309049	0.4536175	0.360308
TaNPF7.3	TraesCS6A02G056500.1	3.4619	8.905365	8.794665
	TraesCS6B02G076100.1	0.8327615	4.685725	2.9227825
	TraesCS6D02G060200.1	8.19694	15.58755	14.0786
TaNPF7.4	TraesCS2A02G443600.1	0.243373	2.693485	1.94343
	TraesCS2B02G464700.1	0.226523	4.671415	3.75112
	TraesCS2D02G442700.1	0.7485365	4.78673	4.292785
TaNPF7.5	TraesCS2A02G443700.1	0.142346	0.4847905	0.5745065
	TraesCS2B02G464900.1	1.6597	2.5854	2.611065
	TraesCS2D02G442900.1	0.0700487	0.524728	0.4765725
TaNPF7.6	TraesCS1A02G197600.1	8.685615	16.7761	15.684745
	TraesCS1B02G212200.1	1.400335	4.08554	3.392945
	TraesCS1B02G212300.1	0.1675955	0.01360275	0.0631343
TaNPF7.7	TraesCS1D02G201100.1	22.50435	21.78185	21.5162
	TraesCS1A02G197700.1	1.30857	2.967425	3.07922
	TraesCS1B02G212400.1	3.530055	7.00846	6.613865
	TraesCS1D02G201200.1	3.467555	7.79266	7.04286

TaNPF7.8	TraesCS2A02G175600.1	5.59785	2.81965	2.888125
	TraesCS2D02G182900.1	8.205755	4.85514	4.495975
TaNPF7.9	TraesCS6A02G267600.1	0.312893	0.639486	0.784947
	TraesCS6A02G267700.1	0.745244	7.05619	6.468605
	TraesCS6A02G267800.1	0.014566	0.414342	0.31016155
	TraesCS6A02G268400.1	0.0614588	0.528501	0.313314
	TraesCS6A02G268500.1	0.1414465	0.873207	0.717619
	TraesCS6B02G295000.1	1.15983	2.662555	3.032295
	TraesCS6B02G295100.1	0.07612815	1.506116	1.262689
	TraesCS6B02G295600.1	0.3107955	0.868472	0.9272525
	TraesCS6D02G246400.1	0.166692	0.6794515	0.67708
	TraesCS6D02G246500.1	0.1210325	0.171624	0.211781
	TraesCS6D02G247000.1	1.243855	3.72802	3.391005
TaNPF7.10	TraesCS6D02G247100.1	0.2696575	1.224868	1.46811
	TraesCS5A02G546200.1	0	0	0.01941235
	TraesCS4B02G380000.1	0.00584725	0	0.01717475
	TraesCSU02G130200.1	0	0	0.0064205
TaNPF8.1	TraesCS3B02G069900.1	0	0	0
	TraesCS3D02G057000.1	0	0	0.0081399
TaNPF8.2	TraesCS2A02G416800.1	0.0085736	0.01823425	0
	TraesCS2D02G413900.1	0	0	0
TaNPF8.3	TraesCS3A02G057000.1	0.1164718	0.1220702	0.09049815
	TraesCS3B02G070200.1	0.0850054	0.135216	0.144894
	TraesCS3D02G056700.1	0.0507084	0.140265	0.148135
TaNPF8.4	TraesCS3A02G056400.1	7.84737	11.515915	11.8018
	TraesCS3B02G069100.1	10.585925	8.663395	8.117655
	TraesCS3D02G056300.1	5.82962	11.921395	9.482915
TaNPF8.5	TraesCS5A02G656200LC.1	0	0.0159171	0
	TraesCS4B02G398100.1	0	0	0
	TraesCSU02G115500.1	0.02940765	0.1023193	0.06789805
TaNPF8.6	TraesCS3A02G392800.1	1.862525	7.982365	6.97552
	TraesCS3A02G392900.1	0.422329	0.599209	0.471046
	TraesCS3A02G533500LC.1	0.0227612	0.9582625	0.858099
	TraesCS3B02G424700.1	1.87545	4.536295	3.72484
	TraesCS3B02G424800.1	1.2605	0.791886	0.530755
	TraesCS3D02G385600.1	0.15165065	1.24199	0.987136
	TraesCS3D02G385700.1	0.03923805	0.0884147	0.03851945
TaNPF8.7	TraesCS7A02G095200.1	0.277684	1.2424555	0.831383
	TraesCS7D02G091600.1	1.0162365	1.0451805	1.0858495
TaNPF8.8	TraesCS5B02G245300.1	0.1988355	0.264825	0.1984085
TaNPF8.9	TraesCS4A02G262700.1	8.66773	15.27355	15.6621
	TraesCS4B02G052200.1	5.10714	13.37795	12.64502
	TraesCS4D02G052400.1	2.588355	7.05767	3.92305
TaNPF8.10	TraesCS4A02G076100.1	2.54102	4.378905	4.498705
	TraesCS4B02G232000.1	0.1527226	0.0619055	0.1784745
	TraesCS4D02G233300.1	1.81617	4.119785	3.546655
TaNPF8.11	TraesCS4A02G076200.1	9.0866E-07	2.67579E-05	3.01155E-05

	TraesCS4B02G232100.1	0	0	0
	TraesCS4D02G233400.1	0	0	0
TaNPF8.12	TraesCS4A02G075900.1	2.840665	4.156185	3.73386
	TraesCS4B02G231700.1	3.850825	4.38286	4.261615
	TraesCS4D02G233000.1	0.6887835	2.875745	2.416435
TaNPF8.13	TraesCS7A02G531000.1	0	0	0
	TraesCS7D02G518900.1	0.02105845	0.21524545	0.210781
TaNPF8.14	TraesCS4A02G075700.1	0.0718676	0.05879915	0.086046
	TraesCS4B02G231500.1	4.98537	3.894915	3.77091
	TraesCS4D02G232900.1	3.771835	3.082405	2.697345
TaNPF8.15	TraesCS4A02G076000.1	0.742746	1.281627	1.374516
	TraesCS4B02G231800.1	1.129895	6.737335	5.28645
	TraesCS4D02G233100.1	0.713076	1.55258	1.345861
TaNPF8.16	TraesCS2A02G007500.1	1.08968	5.930415	5.209235
	TraesCS2D02G009200.1	0.02960695	0.03911865	0.01997145
TaNPF8.17	TraesCS2B02G013000.1	0.581896	2.122354	1.26262
TaNPF8.18	TraesCS2A02G007100.1	0.4719705	0.650558	0.818967
	TraesCSU02G307300LC.1	0.505055	1.0943605	0.6527835
	TraesCS2D02G009100.1	0.316265	0.9886475	0.8539525
TaNPF8.19	TraesCS6A02G369900.1	0.130087	0.09911105	0.1603744
	TraesCS6B02G406100.1	0.972467	1.2105745	1.0123395
	TraesCS6D02G353500.1	0.1627695	0.18818	0.33443285
TaNPF8.20	TraesCS7A02G381800.1	0.812874	10.23758	7.23283
	TraesCS7B02G284300.1	0	0.3265505	0.5692455
	TraesCS7D02G378300.1	0.6669205	6.12871	5.98872
TaNPF8.21	TraesCS7A02G381600.1	0	0.0045975	0.0242135
TaNPF8.22	TraesCS7A02G381700.1	0.05318445	0.5457165	0.362903
	TraesCS7B02G283800.1	1.96646	3.49535	2.828415
	TraesCS7D02G377900.1	2.803565	2.70898	2.864165
TaNPF8.23	TraesCS7A02G381500.1	2.3637	5.5581	4.713685
	TraesCS7B02G283400.1	0.668968	2.225355	2.03573
	TraesCS7D02G377800.1	1.878005	3.073775	2.930635
TaNPF8.24	TraesCS4A02G287300.1	0	0.35093945	0
	TraesCS4A02G287900.1	2.71064	0.893374	0.929226
	TraesCS4B02G026700.1	0	0	0
	TraesCS4D02G024400.1	1.29533	1.62496	1.226335
TaNPF8.25	TraesCS6A02G142600.1	0.05074035	0.266958	0.2910685
	TraesCS6B02G171000.1	0.2630715	0.7942035	0.7468525
	TraesCS6D02G132100.1	0.0519294	0.370753	0.343572
TaNPF8.26	TraesCS7A02G413100.1	0.0212171	0.01064095	0.0074892
	TraesCS7B02G312600.1	0.317803	0.619942	0.424429
	TraesCS7D02G406200.1	0.4776475	0.2584965	0.2123435
TaNPF8.27	TraesCS7A02G413300.1	0.747851	1.794625	1.136185
	TraesCS7A02G413200.1	1.103543	1.739715	1.659925
	TraesCS7B02G312700.1	0.6210495	1.333695	0.481779
	TraesCS7D02G406400.1	1.279685	2.23016	1.81091
TaNPF8.28	TraesCS7B02G312500.1	1.263455	0.1209331	0.23247835

Ta	TraesCS7D02G406100.1	0.0760344	0.0252164	0.0931697
NPF8.29	TraesCS7A02G412100.1	1.159725	4.454055	3.660175
	TraesCS7B02G311400.1	0.3100515	0.467792	0.728618
	TraesCS7D02G405300.1	4.449615	9.085545	7.70361

q expression data of homoeologous NPF genes in transcript per million (tpm)

leaf_Z10	leaf_Z23	leaf_Z71	stem_Z30	stem_Z32	stem_Z65	spike_Z32
0	0.00578925	0.11813375	0.0423977	0.449829	0	0.222377
0.02169915	0.00728435	0	0	0.0124401	0	0.09115235
0	0	0.0471034	0.0081004	0.01421725	0	0.379958
0	0	0	0	0	0	0.1232277
0	0	0	0	0	0	0.06581225
0.00707645	0.0059231	0	0	0	0	0.2712085
1.22699	5.398365	4.592515	0.786949	2.46276	0.085412	2.14345
0.768418	5.357435	8.1777	0.677069	2.7686	0.06593475	2.000805
0.5033155	2.3545	2.71053	0.205184	2.207045	0.3416235	1.063549
0.0066875	0.233674	1.05707	0.0449798	0.237224	0.54086	0.03760705
0.725974	1.45051	2.953645	0.5095185	1.046067	2.714045	0.0468377
1.921045	3.50467	5.53076	0.896853	5.91928	12.15185	0.3719575
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0	0	0	0	0	0	0
0	0	0.05072255	0	0	0	0
0	0.00709405	0.0530912	0.07917955	0.06474035	0.0147051	0.0147045
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0.00768005	0.0591425
0.1717255	0.1647065	0.4784815	0.2215615	0.3208765	0.2965245	1.171184
0	0.03949875	0.08345775	0.11037585	0.30163	0.05721	0.858401
19.71535	12.47715	5.549895	41.0053	39.0787	33.37815	6.8993
21.12145	16.21815	38.5221	38.61695	58.6522	32.4065	8.14173
39.00255	27.43845	19.53295	57.10425	43.1634	32.4691	11.7772
0.303734	0.526736	0.05002785	0.034441	0	0	0.051667
0	0	0	0	0.02048465	0	0
0	0	0	0.04374255	0	0	0
0	0	0.00726365	0.0491904	0.0083518	0	0
0.908575	2.100725	0.000060023	0.557185	0.9220505	2.659335	2.17384E-05
0.0538896	1.059645	0.823835	0.04478455	0.37987	1.371665	0
0.0420409	0.12663975	0.08812075	0.016352	0	0	0
0.0088772	0.1095658	0	0.0545448	0.0199383	0.01835205	0.01717875
0.801574	2.55388	0.230371	0.1621095	1.485885	1.79524	0
1.0878775	0.859195	0.828688	1.69144	2.50728	5.36339	1.542155
1.85481	2.289595	0.391756	2.267345	3.22589	6.69197	0.703897
1.029227	1.253385	0.371933	4.778985	2.81936	6.97535	1.51785
5.12855	2.24585	0.167919	0.54529	0.760294	0.6021435	0.0142845
1.49816	1.36807	0.03179045	0.2378895	0.6583775	0.2153165	0
0.9487585	0.8935225	0	0.03502935	0.12521705	0.04873205	0
0.3350215	0.296472	0.006711	2.507195	0.582617	0.0340437	0.07231295
0.200796	0.240447	0	2.1651	0.6342655	0.15241705	0.246656
0.1467055	0.3543495	0	2.06371	0.9198515	0.10650355	0.02350385
0.0155942	0.0190533	0	0.0320018	0	0	0.0136551
0.1113063	0.1493905	0	0.06397495	0.1036573	0	0
0.8790065	2.56243	0.0205871	2.37851	0.9383485	0.662349	0.1227172

0.0620185	0.05983575	0	0.09275475	0	0.00938485	0.0674321
0	0.3058355	0	0	0	0	0.0075776
0.8285105	0.3363455	0.00808565	0.0867216	0	0.0255596	0
0	0	0	0	0	0	0
3.614625	0.984932	2.10999	1.45992	1.367965	3.58767	0.3523745
3.10872	0.3305585	0.71857	7.7868E-06	0	0	0
4.863025	1.75831	6.596205	1.354165	0.9098025	6.250045	1.75245
0.176234	0.64679	0.726281	1.035851	2.329835	1.566575	0.0866931
0.2197335	0.435099	0.365739	0.1302735	0.551473	0.468303	0.0139971
0.212274	0.6229735	0.467508	0.3750555	4.325445	5.66235	0.1404215
0	0.00598935	0	0.0065188	0	0	0.00657845
0.0068533	0.00573575	0.0283958	0.0328283	0.0267865	0	0
0.0200736	0	0.0134321	0.08592885	0.0077175	0	0
0.11559205	0.08122055	2.54984	0.651079	0.7452585	0.3439205	0.5806105
2.392915	0.4838255	0.05342915	0.507841	0.8320025	0.282043	0.3604615
2.254725	0.8731025	2.55066	1.52707	1.539555	1.2241195	0.3359045
1.35241	2.129865	9.3833	1.18922	3.505125	0.9702905	0.454902
0.797546	3.9428	20.07725	1.1431435	2.70389	1.018216	0.312578
0.912169	2.15815	9.701945	1.30818	2.45125	0.8793175	0.5379195
1.260297	2.020645	6.028915	3.94	13.5814	2.49482	0.5467575
0.994632	0.601982	1.92221	5.868725	7.37482	0.8185465	2.27381
0.925509	1.79997	5.59391	3.02042	5.249805	0.4565905	1.0889235
0.1386625	0.01498025	0	0.03452655	0.09824575	0.146776	0.1008228
0.03043395	0	0.01009565	0.0094259	0.01831385	0.0763527	0.0180352
0.0229337	0.05970725	0.06068075	0.03610615	0	0.194567	0.0324382
0.0704568	0.01182895	0.0135211	0.03722015	0.0859144	0.02717875	0.0689501
0.670132	0.439113	0.2211585	3.771335	12.0977	22.1026	0.2397455
2.100335	3.27832	0.8316725	3.594435	21.00505	40.3604	1.266535
0.1545505	0.20035	0.1886265	0.0502285	1.56335	0.74697	0.239992
1.149665	0.348223	0	5.652005	0.528261	0.1570605	0.0069098
0.3176345	0.05733455	0.00888125	0.693214	0.14794015	0.341547	0
0.1615695	0.04621605	0	1.938525	0.15523685	0	0
0.23211	1.85327	1.73594	0.2866415	0.24399	1.102857	0
0.2270045	0.1769995	0.3560015	0.150086	0.16197535	0.198131	0
0.0407071	0.0301076	0.4690905	0.1186645	0.2453595	0.85301	0
0.3871635	0.2151735	0.0667813	0.3665185	0.2238815	0.35971	0.6060615
0.367626	0.2025905	0.4176675	0.217683	0.46669	1.35762	0.5490675
1.954355	0.596102	0.2028785	1.73962	0.982653	0.569885	2.39349
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0.010204365	0.1269225	0.289486	0.2193055	0.1791615	0.2289265	0.648817
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0.0092917	0	0	0	0	0	0
0	0.01518795	0.9393995	0	0	0	0.00713935
0.03626175	0.2606955	1.63139	0.227872	0.461047	0.258147	0.3235945
0.856805	1.196295	0.5779945	12.22835	4.12899	1.35977	3.674095
0.5021155	0.3676175	0.0163617	4.700835	1.968355	0.2588885	3.785405
1.1549755	0.9820105	0.5270365	9.35767	5.639645	4.770425	6.51116

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0	0	0	0	0.10145285	0	0
0.00766375	0	0.01493865	0	0.1113255	0.0938214	0
0.05364255	0.3167805	2.780565	0.1247065	0.935196	3.91152	0.231333
0.2650465	0.3497505	0.9924185	0.465034	1.000915	1.20089	0.1700545
0.0331114	0.07455365	0.4938085	0.1376585	0.890636	0.568594	0.09096125
0	0	0.00734535	0.00686655	0	0	0
0	0	0	0.0071927	0	0	0
0	0	0	0.0211525	0	0	0
0.877298	1.99939	1.95527	0.1894645	0.670627	0.1726215	0.05494435
0.675748	1.062405	2.027165	0.101073	0.2199485	3.21777	0.0423385
0.8028915	1.16772	4.272175	0.04471955	0.470887	4.185125	0.0269545
1.23708	1.203055	2.339265	1.44085	1.548935	0.4133465	3.902965
0.12612145	0.10002175	0.08852845	0.4162515	0.11043605	0.03441615	1.110316
0.64401	0.3398005	0.237825	0.51225	0.315636	0.1729655	0.785627
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0.233377	0.3206655	0.315983	0.4314345	0.4745415	0.471797	0.4904985
0	0	0	0	0	0	0
0.159	4.70012	12.0673	0.8284985	1.135605	3.689445	0.153765
0.623266	7.005925	14.1683	0.1897425	0.09295085	2.81966	0.502312
0.513335	5.41442	17.233	0.3258905	0.4850875	10.5735	0.3827655
0.2421115	0.2730405	0.01473295	0.04477265	0.6221815	0.176173	0.5457055
0.0322465	0.1426115	0.0202772	0.152576	0.9404705	0.1451507	0.267466
0.11257405	0.371137	0.03151585	0.05395865	0.8651425	0.2903145	0.0685428
0.1034338	1.128505	0.5386125	0.2435535	12.2312	3.061925	0.1336636
0.03253995	0.7893695	0.5056725	0.13405155	8.801075	1.184695	0.20510445
0.00793465	0.303378	0.2861945	0.2979145	3.908755	1.34691	0.07797425
0.05443935	0.642781	0.285665	0.2109345	5.795255	1.35744	0.4216865
0.4475935	1.053745	0.792145	0.4167035	7.24955	1.40495	0.3765907
0.0664214	0.2904175	0.04087605	0.02808155	3.22786	0.221248	0.04236775
0.0072248	0.212555	0.4896495	0.2944305	0.1810445	0.1426775	0.06489675
0.01375355	0.151563	0.1690705	0.9245785	0.5513175	0.9164345	0.05778355
0.01337865	0.300049	0.945654	0.399108	0.6348345	0.412071	0.00674005
0.0407001	0.868606	1.63665	0.0625509	0.8388545	0.339372	0.01046215
0.281798	0.235767	1.688475	0.2010855	0.406347	0.404588	0.171047
0.11756105	0.707036	4.715045	0.0519692	1.47316	2.144165	0.105194
1.117795	1.21074	1.48509	1.67034	4.35967	1.61849	2.739795
1.1594055	0.5217505	0.546792	2.770075	3.375475	1.658685	1.580225
1.4183	1.0245055	0.4212755	2.168015	8.13002	1.69967	2.18233
0.0206253	0.1217067	0.0497572	0.11869575	0.162195	0.0439495	0.02377435
0.02110735	0.0086576	0.0335446	0.01815485	0	0.01807365	0
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0.00961925	0.01013525	0	0.0115789	0	0	0
0	0	0	0	0.03011325	0.01374385	0
1.68777	1.551805	0.529425	9.333335	13.85295	15.16795	1.680105
1.627335	0.782222	0.5573235	9.668095	13.48055	24.1571	0.501142
1.701775	0.961381	0.560342	8.74496	9.6239	26.1711	0.2700935

1.89987	0.9244265	1.033183	2.34129	2.15264	2.852865	0.352108
1.5153	1.867505	2.498755	1.276845	0.5831595	0.2069675	0.2211055
1.1963675	0.4405785	0.409962	1.20764	0.9673375	0.0731212	0.4474065
1.964815	2.740085	2.43955	0.9359245	1.501925	0.846002	0.1426685
0.608147	1.62763	5.68857	0.486106	2.814185	1.83178	0.08184
2.973885	3.66507	4.000315	2.396515	4.973825	3.2321	0.274021
0.83136	0.7254785	1.252805	0.408963	0.780868	1.50131	0.424733
0	0.32159	0.077108	0	0.62934635	0.2721075	0.22190635
1.714995	2.461295	3.463035	3.875875	3.44639	3.28263	3.22762
0.594506	1.6601	2.0689815	1.81507	2.679245	0.760437	0.8844695
4.52485	1.18096	0.763188	4.545405	2.551755	0.649509	0.2516965
5.229545	2.26679	6.58592	6.684885	8.62185	7.27645	1.013915
0.02285955	0.0587506	0.445985	0.09006955	0.0158197	0.1072671	0.08561235
0.03851325	0.0107759	0.01254355	0.1848875	0	0.0131936	0.12701225
0.05702845	0	0	0.218628	0.01457515	0.11443	0
0.00447745	0	0	0	0.04807055	0	0
0.1699985	0.02211545	0.01076655	0.07413735	0.03952405	0.0271402	0.0170278
0	0.02861305	0.01925445	0.0626913	0.336781	0.7654015	0
0	0	0.191203	0	0	0	0.02407705
0	0	0.01071935	0.08377275	0.04666865	0.125903	0
0	0.00704145	0.01028115	0.0190951	0.030499	0.10307655	0
1.43204	1.62943	1.4422	0.912256	0.9525085	0.247687	0.625249
0.744081	1.445165	1.941915	2.977155	3.66917	2.887695	0.200664
0	0.08650795	0.0829558	0	0	0	0
0.01898295	0.0984664	0.06264435	0.02594125	0.0106692	0.00967025	0.01749465
0.0602122	0.1837605	0.1141165	0.601865	0.2964445	0.0091125	0.0170599
0.0809987	0.08988235	0.1467055	0.159695	0.120595	0.00874385	0.0327405
0	0	0	0	0	0	0.0101114
0.0544419	0.0172443	0.0208391	0.01078165	0.04777005	0.1949575	0.0096104
1.48527	1.80797	0.6633705	1.20067	6.38365	1.6526	0.757835
1.54049E-05	0.3249585	0.165617	0.689486	1.376705766	0.424510552	0
2.323835	1.91157	2.116425	2.009215	7.82232	6.05985	1.327495
1.865785	1.37769	0.18204	1.18968	5.863765	1.138215	2.21843
1.140285	0.958907	0.8979	0.9224785	5.828525	4.650925	0.782391
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0.0528765	0.0080966	0	0.01876555	0.00927215	0	0
0.644975	0.142034	0.02856555	0.3033515	0.31531	0.7989285	0
2.000145	1.38445	0.7254035	0.3939155	1.27204	3.11868	0
1.87902	0.604267	0.6643	0.555564	2.235005	3.21857	0.0079443
3.42349	1.28871	0.620867	0.044014	0.02592125	0.3625075	0.00853325
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0	0.0066935	0.0311669	0.06723135	0.03356745	0.0489604	0
0.00828385	0.0312858	0.194174	0.07744415	0.06939295	0.04225315	0.00839735
0.6773825	1.295232	1.668935	1.81582	3.613885	2.747045	0.03189455
0.682534	1.297595	8.927195	1.4192	2.09091	3.792165	0.132678
0.5653895	0.599635	11.9482	1.914485	2.5855	7.104655	0.05198225

6.44582	9.51881	8.98591	15.2692	21.68625	9.066615	2.83675
5.981535	6.76639	10.98515	22.90695	10.872	4.42609	2.69373
5.70133	7.91192	6.66031	18.4551	19.6345	9.17045	3.478005
0.02891945	0	0.0071838	0.0083536	0	0	0.0345841
0.0137732	0	0	0.0446108	0	0	0
0.0068247	0.0133118	0.0066413	0	0.00763095	0	0.0062652
5.13865	5.5772	2.431365	1.099842	1.08748	0.4970565	0
10.91195	9.512065	5.26455	1.79582	2.18638	1.0969145	0.13450385
5.739235	6.23336	2.13419	0.747223	1.37349	0.312899	0.15083945
3.24142	1.224595	0	6.262965	4.0956	0.0301336	4.230935
0.0287815	0.03219645	0	3.228335	1.71575	1.354885	2.854645
0.113516	0.09384595	0.00902285	3.23795	2.503805	0.06839465	3.936575
0.663467	0.29965	0	3.469205	3.57793	0	2.55035
1.19318	1.88701	0.311904	3.530885	4.36749	2.03619	0.2281715
7.088815	5.62184	2.759275	2.28229	4.54096	3.473085	0.00726965
3.572035	3.16661	0.741377	2.3189	3.756105	0.885147	0.0189371
2.96235	8.6168	25.67705	3.488015	2.42492	8.368205	0
0.062482	0.244532	0.0836295	0.1708815	0.2924765	0.786117	0.002694975
0.414372	2.31828	6.513505	0.3900455	0	1.0303615	0
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0.21697194	0.1782675	0.103789	0	0.724915	0.8287815	0
1.523365	0.66057	0.166631	1.9214	1.481315	0.4782095	0.1379115
1.750575	0.5613575	0.3815485	0.1921655	0.322295	0.16611505	0
0.341299	0.6938085	0.4518185	0.862799	9.590765	4.58555	0.617571
0.277994	0.5878765	0.486191	1.57138	3.95228	3.004515	0.233582
0.20338	0.890318	1.443465	1.7797	7.349	8.39626	0.2329205
0.468258	0.589055	0.3590065	2.32164	14.34875	0.1060617	0.1051255
0.0335024	0	0.0194518	0.0645706	0.9036565	0	0.0177032
0.3677335	0.487381	0.317196	0.5117325	11.63485	0.426739	0.4238485
0.365268	0.7276015	0.1634225	0.0644367	0.0719558	0	0.01213195
0.0979855	0.0337134	0.078816	0.02702845	0	0	0
0.9324295	1.40623	0.372362	0.1559335	0.13423325	0.0310002	0.0123242
0.035276	0.06334875	0.3569375	0.0133209	0.1278515	0	0.0074058
0.00728065	0.04469025	0.0240447	0.0281477	0.5998905	0.0073757	0.01679425
0.03293165	0.065169	0.0091143	0.01936025	0.1469196	0.00730935	0.01622375
0.2011525	0.2160655	0.731599	0.04894385	0.15793865	0.4244445	0
0.840739	0.865561	2.86055	0.198033	1.28773	3.319705	0
0.03345245	0.1237409	0.148917	0.02871225	0.051905	0.0956995	0
11.9808	15.3056	20.03525	12.37115	19.2137	30.28875	11.5988
3.20355	1.468755	2.232925	1.738735	1.828035	1.442325	3.29322
0.09358955	0.08898785	0.1130595	0.09939475	0.10274005	0.180413	0.294258
11.69935	9.525135	12.2534	14.8466	21.53675	40.94435	6.976725
1.74474	1.163425	0.358093	0.554191	2.588515	9.8732	0.5380785
2.679315	0.899829	0.216553	1.172165	2.16032	15.6238	0.7703145
2.15382	1.423955	0.493987	1.858185	2.08289	8.1093	1.0343465

1.820335	0.911884	0.3618285	1.78012	3.57549	2.30498	2.21856
2.355685	2.20967	1.4743	1.72696	8.36849	6.30042	2.6963
0.0191714	0.0084562	0.0194127	0.0084153	0	0	0
0.2040165	0.178371	0.152327	0.10029285	0.030816	0.0186595	0.11731115
0	0.0202368	0.0241458	0.00689225	0	0	0
0.0107724	0.0312393	0.272737	0.03748335	0.0097982	0.01214735	0
0.132258	0.3357215	0.2919375	0.04592035	0.0617468	0.00738015	0
0.02006795	0.03342265	0.0222572	0.03280665	0.0159234	0	0.0467455
0	0.0684087	0.0075711	0	0.01674825	0	0.006873
0.153608	2.25692	1.55263	0.0526175	0.01665025	0.0076694	0
0.0355905	0.4276175	0.0818555	0.1643175	0.0805302	0	0.0067826
0	0	0.033965	0.02937275	0.03928115	0	0.0068221
0	0.03682515	0.0737394	0.0112617	0.0626673	0	0.00828105
0.01630755	0.01349745	0.02326185	0	0.00826605	0	0.0099828
0.0070249	0	0.0674715	0.0070086	0	0	0
0.0068467	0	0.0517366	0.0124753	0	0.00706335	0.01322605
0	0	0.1835675	0.04081735	0	0.006633	0.01302315
0	0	0	0	0	0	0.0185048
0	0	0	0	0	0	0.0631251
0.0089024	0.024912	0.0108761	0.02020885	0.0098893	0	0
0	0	0	0	9.21945E-05	0	0.01713535
0	0.5141955	2.00998	0	0	1.030525	0.0361517
0.0949327	0.173478	0.334418	0.0430608	0.03522235	0.548465	0.0801705
0.131272	0.930952	7.331865	0.05879355	0.13839495	1.16106	0.1350444
5.150735	5.249995	5.958715	2.995305	9.75429	13.3907	1.223925
2.378485	1.87638	2.099835	2.124565	6.32576	5.893925	3.17267
3.614365	5.015205	11.491	3.501915	6.664955	9.780385	6.76864
0	0.01221695	0	0	0	0	0.02694485
0	0	0	0	0	0	0
0.00752495	0.04762775	0.0240897	0.0344706	0.0610864	0.02331735	0.0738477
0.8671885	2.77171	16.7077	1.793605	3.24204	2.107155	0.01772725
0.337649	0.538838	1.813905	1.048688	1.330295	0.56208	0.34685
0.04050065	0.430079	2.759405	0.2006535	0.502732	0.226315	0.02030605
0.4047095	0.3391875	0.82031	0.4325085	1.24837	0.346846	0
0.0635054	0.2023645	0	2.691765	3.840325	0.527566	1.68047
0.06856585	0.294682	1.34011	0.324052	0.715406	0.3389795	0.009549
0.0405645	0.096178	0.277521	0.4094605	1.239092	0.5182775	0.31267
0.04997965	0.12710695	0.0904975	2.99961	2.53121	0.0344245	0.0239585
0	0.02870375	0	0.3441915	0.9553425	0.1718615	0
0.04531555	0.09136535	0	0.242125	0.1834236	0.24269	0.0352506
7.392675	4.81012	4.69803	7.718495	10.3156	19.00015	5.07792
3.087225	4.21951	7.23477	6.62609	7.658785	14.3283	5.21155
3.305895	1.296026	3.974005	3.21479	2.86156	5.116515	0.52292535
0.201464	1.42103	3.271325	0.1587405	0.8543975	0.3788713	0.1164354
0.0200284	0.007481828	0.368522	0.0346043	0.176841	0.02734955	0.126299
1.187195	1.88092	3.28635	1.002577	1.48541	2.32569	0.380784
1.58661E-08	0.0460903	0.1804766	0	0.0119832	0.1045745	0.00381047

0.0503735	0	0.2809975	0	0	0.053516002	0
0	0	0	0	0	0.02225105	0
1.8825	2.40064	2.151235	1.82154	2.739795	3.29293	2.61699
1.822235	2.11942	1.742145	1.37952	1.971095	2.467195	1.88324
0.818248	2.19249	2.768195	0.743022	0.6292705	0.54614	1.160441
0	0.1599915	0.552096	0	0	0	0
0	2.177775	6.755335	0	0.0390209	0.117819	0
0.00715165	0.03892345	0	0	0.125995	0.4893815	0.01381885
1.188928	0.5561565	0.0724671	1.507095	4.075585	0.7160805	1.24152
0.592186	0.2635455	0.0336121	0.7169625	2.487445	4.12243	1.026795
0.0076265	0.10122075	0.0074329	0.207949	0.04256835	0.0156067	0.0224698
0.0076307	0.03034175	0	0.06072935	0.03267635	0	0
0	0	0	0.09692875	0.0229012	0	0.02341195
0.94288	3.43176	4.9065	1.71601	4.595295	32.0571	0.2327
5.10278	4.09017	1.225715	0.2264695	7.085255	42.76735	0
0.214234	0.613766	0.1514575	0.279674	1.42252	1.29423	0
0.229809	0.9218875	0.06863185	0.4471335	1.205277	1.65695	0.00535235
0.504632	1.10205	0.10681035	0.6217125	1.638935	2.18133	0.0181316
0.5889155	1.51042	0.3452005	0.283228	2.574295	4.725845	0.01974145
1.58049	3.53533	0.979905	0.1774225	0.4019735	0.514526	0.1844965
2.817975	3.57651	0.371733	0.6391365	0.6452275	0.828456	0.02031575
1.592525	5.015985	1.943945	0.844362	0.806956	1.57471	0.1144584
0.796674	0.1272175	0.4826205	0.353275	0.7818225	4.363295	0.01523175
0.0085383	0	0.09450455	0.067898	0.133936	0.089486	0
0.216468	0.214748	1.03782	0.2042905	0.2199175	1.14804	0.0074562
0.0640872	0.01591865	0.0116305	0	0.01067645	0	0
0.432444	0.262182	0.6313405	0.329248	1.031914	0.943973	0.184691
0.8549265	0.352051	0.281187	0.633679	1.745065	0.8744655	0.163599452
1.76192	0.949833	0.1163095	1.735275	1.628185	1.88666	3.593145
0.9308025	0.0749327	0.00791765	0.3249525	0.2248305	0.04180265	0.1069173
0.06812595	0.10941545	0.0933636	0.957291	0.746397	0.793851	0.187669
0.181654	0.05858095	0	0.05682405	0.1306165	1.535845	0.02225605
0.506035	0.379274	0.0331226	0	0	0	0.0357277
2.914655	2.39202	0.0162562	4.299625	2.50862	3.596435	1.49735
0	0	0	0.01116435	0.01151705	0.00979905	0
6.607845	4.871465	0.5164405	7.33128	5.946525	14.78805	3.17422
0.03622475	0.10383665	0.006806	0.2892185	0.365994	0.4630395	0.04400035
0.3250455	0.1159146	0.0134704	2.070245	0.5987225	0.3447505	0.4011965
0.165441	0.08977285	0.039938	0.194001	0.25354	0.3009725	0.142609
0.123575	0.1097437	0.091378	0.318988	0.2806685	1.0478575	0.04398025
0.713467	0.12765	0.743732	0.0304762	0.8388895	1.855275	0.02126055
0.115221	0.04370695	0.0461855	0.07759745	0.6784305	0.7854945	0.0770829
1.643485	1.11347	0.6832845	0.590999	0.342517	1.57953	0.1087756
1.7885865	1.27138	0.862816	0.800593	1.067899	2.024715	0.0877371
0.3138245	0.512535	0.1313455	0.1589399	1.0032785	2.21435	0.0451066
2.146375	0.8453445	0.9243015	1.80393	1.96227	7.44625	0.3702605
1.40096	3.956605	0.9193505	3.359775	18.1734	1.561175	2.92087

0.01587825	0.1321235	0.53808	0.0999978	0.609096	2.986865	0.07714185
0.1411443	0.2712545	0.39273	0.790734	0.4082435	0.353351	0.007433
0.0729325	0.2526715	1.713955	0.930939	0.2128085	0.281459	0.0477305
1.966385	1.530055	3.779085	1.52283	1.553035	1.161665	1.5123

spike_Z39	spike_Z65	grain_Z71	grain_Z75	grain_Z85
0.5368575	0.308761	0.05034795	0.03439475	3.02277
0.520556	0.327635	0	0.011029115	5.723375
0.6006975	0.176457	0.07103655	0.060877	3.39359
2.438925	0.08320935	0.1613215	0.016431	0.0161533
3.721905	0	0	0.00355347	0.03777245
3.56653	0.0650142	0.12915975	0.020600545	0.02092995
3.500395	2.09384	14.42005	0.4175415	0.510212
3.232985	1.023519	14.2963	0.730051	0.235053
1.77863	0.9537045	3.82978	0.203769	0.0201578
0.09056365	0.08859525	0	0.1423975	0
4.3008	2.51357	5.24447	1.35552	0
3.621025	9.825395	6.281415	0.4216875	0
0	0	0	0.00455665	0
0	0	0	0	0
0.01819285	0.00785235	0	0	0
0.055193	0.0221343	0.0145652	0	0
0	0	0	0.004037485	0
0	0	0.02678215	0.00449121	0
0.17885	0.392833	0.9234605	0	0
3.172745	8.026815	15.92585	0.761119	0.298604
1.9601	6.55441	10.84548	1.208165	0.0635925
63.20295	23.1604	17.28575	7.715615	3.322895
85.6626	34.2646	71.98595	6.13314	3.463915
91.6269	35.9212	45.71975	5.011555	5.18214
0.0383574	0.05239675	0.184962	0.00469049	0
0	0	0.0389151	0.00843945	0.7064645
0	0	0	0.01217005	0.0079737
0	0	0	0	0
0.719883	6.02824	1.38384E-05	3.51293E-05	0
0.0349551	0.5322935	0.016156	0.003828475	0
0.0072138	0.200731	0	0.00380959	0
0	0.00807015	0	0	0
0.3874915	2.00521	0.00669295	0.0035251	0
6.240675	3.85426	0.209555	0.02676205	0
0.911148	4.212145	0.07610905	0.01354007	0.0095386
2.963185	1.923385	0.12832255	0.003334955	0.0279307
0.911575	0.2139235	0.848517	0.02654605	0
0.1036895	0.2050105	0.527683	0	0
0.374621	0.11836275	0	0	0
0.830264	0.6026195	0.09396635	0	0
1.110169	0.527635	0.0745348	0	0.00810395
0.380892	0.750207	0.0501149	0	0
0	0	0	0	0
0.0289836	0	0	0.00017105	0
0.456194	0	0	0	0

0.2474345	0.0223641	0	0.01240424	0
0.0255436	0	0	0.00429094	0
0.0448575	0.00752645	0.00833185	0	0
0	0	0	0	0
0.5741365	4.69793	0.163785	0.2503015	2.11596
0	7.66985	0	0	0
3.088075	7.196045	0.1631925	0.1071355	0.998057
0.09707135	0.207691	0.0211677	0.5531815	0.630072
0.06085295	0.07980575	0.00726755	0.0974336	0.10901525
0.2219625	0.229252	0.0158563	0.3069515	0.378221
0	0	0	0.0140075	0
0.0636895	0	0.3377525	0	0
0.0075859	0	0.0540517	0	0
3.50188	20.88905	0.1119125	0.0187176	1.227015
1.555935	13.42845	0.4041605	0.010187865	0.6560815
0.991698	24.8299	0.230574	0.0812466	1.37409
0.704771	7.57807	5.89549	0.5121475	5.78011
0.9321425	4.634755	1.292285	0.9709685	2.43508
1.57855	5.266185	2.3651	0.97144	1.607715
0.7469115	0.5230465	0.2146025	0.01098885	0.1734235
1.1212415	0.1908365	0.0950096	0.0753826	0.06281205
0.5796135	0.30307	0.216514	0.0644334	0.1127136
0.322585	0.3363575	0.2178305	0.003677425	0
0.01985035	0.0971654	0.01883175	0.10645895	0.227183
0.1933045	0.229309	0.099881	0	0.124285
0.0114342	0.03818245	0.03515015	0.02625775	0.0671883
1.69916	5.265455	11.5526	0.488352	0.0137652
2.94609	8.129225	12.38565	0.06609925	0
0.4158785	1.57562	0.8857975	0	0
0.5505555	0.1488347	0.0075405	0	0
1.2289205	0.744939	0	0	0
0.08305975	0.804428	0	0	0
0	0.00905945	0	0.004693425	0
0.00902495	0.03716275	0	0	0
0	0.0974481	0.0093928	0.0122515	0
0.735571	0.507413	0.4276055	0.03210195	0.00499799
0.7683835	0.964569	0.4177915	0	0.157081
2.462635	0.9697185	1.336255	0.1117435	0.1456695
0	0	0	0	0
0.441418	0.862456	0.1101632	0.05052005	0.1816475
0.0266493	0.0665742	0	0.008784265	0.01812515
0	0	0	0	0
0.00854605	0	0	0	0.00689105
0.6423315	1.357355	0.14068835	0.06755315	0.684869
5.94632	0.219395	0.07623	0.00937404	0
2.489225	0.13984255	0.176558	0.00976207	0.0659359
8.679855	0.8994365	0.3188975	0.00596005	0.01274105

0	0	0.01117235	0	0
0	0	0	0	0.00820095
0	0.00778725	0	0	0
1.11084	2.628475	0.3677795	0.0997434	0.6574095
0.7497225	3.67224	1.0983465	0.06506255	0.800601
0.457096	3.40278	0.802086	0.07373365	2.180145
0	0	0	0	0
0	0	0	0.019199485	0
0	0	0	0	0
0.289983	18.62155	1.0420025	0.09039045	0
0.233481	14.1765	5.63135	0.195428	0.08459615
0.04336625	12.02005	3.51143	0.203979	0.0681187
3.74337	1.38961	2.20384	0.299695	0.4236755
0.5787635	1.091905	0.6675385	0.1416651	0.1360458
1.0148065	0.3121575	0.367949	0.1410295	0.0454595
0	0	0.0191832	0	0
0.673615	0.642509	0.5533715	0.09430345	0.3305575
0.0094381	0.0087106	0	0	0.0152377
0.7319165	0.320745	0.510857	0.04381835	0.2823615
0.492105	0.74014	1.39475	0.04017315	0.372914
0.3834655	1.943925	3.40395	0.07481185	1.202555
0.612026	1.06002	6.135575	0.14374055	0.0119755
0.2804075	1.2485575	4.450635	0.156807	0
0.04772545	2.10179	0.0671851	0.0878408	0.07332215
0.198701	3.008985	0.2997375	0.6277495	0.0209363
0.232436	1.66304	0.0941179	0.6357765	0.0244578
0.1204	0.8734765	0.09925595	0.3450435	0.016215
0.397289	1.334425	0.1588225	1.848585	0.0125165
0.380658	3.00992	0.259598	0.2610885	0.0450069
0.1319725	1.0139015	0.0326151	0.592518	0.0355453
0.082581	0.0889763	0.2306085	0.003813465	0.00732735
0.143257	0.06984635	0.960117	0.0220391	0.0660784
0.07151665	0.09272755	0.891694	0.0263274	0
0.0472015	0.6510715	0.29325	0.0246696	0.405975
0.503895	0.4073985	0.1193015	0.02611245	0.05629125
0.333372	2.14401	0.1857475	0.0747357	0.1450105
3.563055	5.83446	7.19041	0.3448965	3.60119
2.80611	7.122905	4.66299	0.47241	1.67284
3.561565	7.638555	5.975065	0.5817455	5.88927
0.02806335	0.3246265	0.2593435	0.00455128	0
0.03693505	0.13635665	0.0937676	0.0305566	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0.0119026
1.745305	1.39632	4.29396	0.1283055	0.8551135
0.526976	1.286895	6.54082	0.3410995	1.4859875
0.6753685	2.14453	6.71131	1.505965	0.995504

0.9600155	3.96464	0.910159	0.7272825	2.812315
0.13141475	3.66324	1.36858	0.606694	6.861435
0.492671	3.050685	1.365125	0.735466	1.78405
1.027333	1.009888	3.708895	0.01117288	0.0332621
1.2816375	2.3978	3.35571	0.127924	0
3.05852	1.99956	3.02975	0.096639	0
0.8336895	1.11231	0.7616325	0.0813939	0.323567
0.0188713	0	0	0	0.2442205
5.244325	4.63215	3.01178	0.3847035	1.310915
1.364815	0.8473485	0.924054	0.05201105	0
0.722416	1.0049935	3.617615	0.2136055	1.63433
1.99537	2.381115	5.516435	0.0290686	0.1126045
0.04938875	0.107969	0.08746955	0.02392005	0.376722
0.0555836	0.0367304	0.189893	0.0323647	0.408786
0.0402773	0.2434275	0.03184655	0.0189017	0.00661395
0.0234217	0.0531145	0.004927975	0.04626405	0.014845945
0.0088272	0.1176915	0.009984	0.00927665	0.0483088
0.0425874	0.0553431	0.0247472	0.008311	0
0	0	0	0	0
0.0096562	0	0	0	0
0.00926285	0.15032	0.09835175	0	0
2.13393	1.823275	3.09274	0.11262775	0.03006605
0.4942775	0.3536665	0.05442945	0.02056145	0
0	0	0	0	0
0.0695448	0	0.0825353	0.00950815	0
0.138771	0.10799235	0.389592	0.0139408	0.0340289
0.10852355	0.0316562	0.211987	0.00402554	0
0	0	0	0	0.01067455
0.0095165	0.630253	0.02028535	0.004989855	0
1.061652	0.4439725	0.07292315	0.01241727	0
1.21644E-06	0.338385	0.314282	0.03588	0.004791295
2.488405	4.54103	3.39572	0.317916	1.862705
3.826945	1.26224	3.700285	0.203094	0.8575365
0.674316	4.976145	3.252995	0.04139795	0.8927165
0.1022616	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0.07262325	0.173088	0.0097568	0	0
0.606527	2.30864	0.09335785	0.02023575	0
0.237781	1.57344	0	0.004103225	0
0.178775	0.01621675	0	0	0
0.06654825	0	0	0	0
0	0.0324985	0.01708745	0	0
0	0.04691425	0	0	0
0.0952606	1.191756	0	0.00424722	0
1.401385	2.627645	0.225969	0.0649128	0.1419075
1.04008	2.538915	0.1063045	0.0268346	0

12.8799	22.30765	0.9300325	0.264736	35.4904
11.54632	19.43435	0.755685	0.1358935	4.058795
8.037265	22.3041	0.7963095	0.1743805	14.0573
0.02434635	0	0	0	0
0	0.00634995	0.007952	0	0
0	0.15409605	0	0	0
0.02047635	0.997859	0.0332696	0.0143984	0
0.261208	0.3609235	0.00839825	0	0
0.4820125	0.797644	0.01495265	0.0070978	0.0066104
1.99298	0.2204425	0.319095	0.08421665	0.4181675
2.171375	0.1193476	0.00867215	0	0
7.028965	0.723389	0.6558615	0	0
2.689595	0.06283595	0.03138905	0	0
0.5368605	0.861292	0.316471	0.0446745	0.0802152
0.05384475	0.0849931	0.0248325	0	0.0127296
0.1396935	0.0493636	0.04983975	0.03496625	0.03496575
1.141324	0.8862705	0.0496003	0.01346155	0
0.175342	5.2299E-08	0	0	0
0.0868995	0.839793	0	0	0
0	0	0	0	0
0.680954	3.50214	0.04343195	0.00989815	0
0.5683315	3.05273	0.0316307	0	0
0	0.204603695	0.78218	0.089859	0.2102
6.60643	1.52338	6.702115	0	0.9082645
1.80192	0.336957	1.868265	0	0
1.211065	7.279465	1.969845	0.592289	0
0.3340135	4.338525	1.141235	0.293342	0.00575325
0.2798115	5.15032	1.30735	0.3350025	0
0.4365355	5.45412	0.02771915	0.10529165	1.85046
0.2575235	0.09066945	0.0072671	0.01363165	1.745
2.53544	4.82721	0.0511334	0.01041463	0.506883
0.08035635	0.211839	1.289185	0.019594955	0
0.0209558	0.0063211	0.1472865	0.03548255	0
0.1155141	0.2154835	0.1894075	0.03092605	0
0.0153565	0.091755	0.123982	0.0425302	0
0.0080145	0.0136209	0.0228561	0.02233165	0
0.01487405	0.47092	0.0462931	0	0
0	0.62234	0.206077	0.016416685	0.01416995
0.04693125	1.15308	0.8621655	0.0437896	0.0498864
0	0.1714205	0.5144645	0.004008935	0
31.21995	45.8334	45.1062	3.30537	38.3128
7.360955	7.65942	9.15733	0.4777205	2.28797
0.2139295	0.421987	0.8338845	0.06230495	0.118147
24.21135	27.59765	35.1547	2.427045	11.7693
5.259715	22.2196	14.1527	0.4275485	1.95265
11.47815	23.09895	29.6083	1.357905	5.142925
6.60871	20.80905	25.8549	1.1963365	6.27236

1.75892	1.1362	3.70747	0.1864855	0.8061885
2.178235	2.84443	5.2763	0.313307	1.20899
0	0.00940005	0.1865785	0	0
0.1385005	0.0164156	0.0923338	0.1132402	0.2853065
0.0075674	0	0	0.00360342	0.03583075
0.0118352	0.0239096	0.0118226	0	0.03504325
0.00787165	0.0215733	0.03530235	0	0.00667865
0.0171778	0	0.0318208	0	0
0	0.0894654	0.0361049	0	0.3032175
0.02228945	0.04954575	0	0.00707935	0.01318545
0.3017665	0.04332025	0.222056	0.0148133	0
0	0.0360373	0.00919055	0.003534165	0.01537635
0.00990995	0.0081756	0.0695516	0	0
0.07936775	0	0.01188895	0.0082202	0.00939125
0	0	0.301779	1.891745	0.00683
0.0143716	0.0262765	0.1572445	0.6824865	0
0.0070756	0	0.740178	4.266935	0.07216025
0	0.0785219	0.263849	0	0
0	0	0.01075135	0	0
0	0	0	0	0
0	0	0	0	0
0.02223	0.02094905	0	0	0
0.1338485	0.05346635	0.01900515	0.003014345	0
0.07051565	0.03414145	0	0.003796105	0
2.223705	9.58979	8.206075	0.6270265	0.464242
3.287475	6.99941	13.20465	1.220115	7.243705
14.44555	15.19325	13.6866	2.78753	4.623725
0.185729	0.0148745	0.07928085	0	0
0.7638905	0.05523775	0.01523865	0	0
0.4996585	0.08602045	0.3426675	0	0
0.3940835	2.684	0.798917	0.11856205	0.02813095
4.274095	0.9371995	0.582848	0.06100355	0.0843113
0.1190013	0.097826	0.02130035	0	0.0782477
0.140706	1.047885	4.748495	0.2443935	0.1341775
1.417005	4.322845	2.67244	0.08034215	0.0293333
0.0089163	0.617461	0.3400875	0.1937025	0
1.94326	1.025414	0.3038175	0.0738889	0.01509785
0.0714622	0.0911203	0	0	0
0	0	0	0	0
0.01028575	0.07101085	0	0	0
11.46905	12.04985	14.06535	1.943575	4.506875
14.72095	8.07403	7.600555	1.955695	1.894535
3.91171	2.93435	3.375865	0.2659546	0.3898685
0.2550539	0.504825	0.11059165	0.04360725	0.4053485
0.04788185	0.1855615	0.1184882	0.003963635	0.0115205
1.27789	0.412674971	1.03955	0.02723755	0.0072406
0	0.0486021	0	0	0

0	0.107753	0	0.0594295	0
0	0	0.0257057	0.04708435	0.0768755
3.660175	4.965515	2.970955	0.269152	0.9274785
2.43184	3.079715	2.313005	0.1683485	1.134245
1.12538	1.37335	0.452326	0.1109874	0.0233399
0.008385	0	0	0	0
0	0.0665474	0.0093156	0	0
0.00787165	0.03332645	0	0	0
1.53684	0.355679	0.09326695	0.2413945	0.1461779
0.6647135	0.374238	0.0145426	0.180369	0.213249
0.08776625	0.0138147	0	0.00402406	0.00790795
0.248237	0.2636915	0	0	0
0.0354391	0	0	0.00432555	0
4.56468	7.485485	0.403395	0.10596005	0
1.2042815	3.079455	0.01792585	0.07641445	0
0.2111725	0.5837245	0.113408	0.02657665	0
0.9079485	0.796228	0.01977235	0.003080865	0
1.140853	0.994335	0.0188421	0.00444936	0.0376016
2.931145	2.697675	0	0.046866	0
0.762518	0.453607	1.525725	0.131811	0.0402439
0.613669	0.889361	0.793706	0.2529475	0.5632845
1.87648	0.9241465	0.7524445	0.1198812	0.1558535
0.16325145	5.615295	0.2975865	0.00787405	0
0.00940865	0	0.00858055	0.01306211	0
0.03017965	9.878805	1.201555	0.139303	0
0.01047385	0.0086579	0	0	0
0.1663235	3.91135	2.559125	0.07334535	0.36546
1.114855	2.120125	1.517745	0.068177	0.06610775
4.58624	4.09149	2.7583	0.2111195	0.705688
0.0341624	0.155344	0.01736515	0.0077309	0
0.2871855	1.144501	0.01903345	0.018290865	0.0171675
0.0960648	0.542698	0.03447025	0	0.0083679
0.651522	0.0796901	0	0	0
2.48376	0.1854433	0.600176	0.10979785	0.0322045
0	0	0	0	0
4.770005	1.271645	1.8913	0.03058565	0.0692709
0.872745	0.08104635	0.00704895	0.01034802	0.05161785
2.34494	0.17858235	0.10379865	0	0.02472295
0.6822925	2.521965	0.1327707	0.0425516	0.09224535
0.188159	0.1470575	0.1486535	0	0
0.07829815	0.0809912	0.1133881	0.003550765	0.0143393
0.0540991	0.3303435	0.251764	0	0.02910255
0.414141	0.5870055	0.150961	0	0.0302789
0.3564895	0.63665	0.094323	0	0
0.4590525	0	0.1144455	0	0.006751345
0.950027	0.8870925	0.6041365	0.01616885	0
1.7903	0.59753	0.3914135	0.00398983	0

0.3401585	0.698069	0.0445992	0.00808001	0.0477425
0.206335	0.5297515	0.05570495	0.0225421	0
0.1704705	0.560059	0.228569	0	0.0138543
5.018095	4.197055	3.47317	0.275782	0.5942985

Supplementary Table S6-B. Choulet et al., 2014 - <http://www.wheat-expression.com/> - RNA-Seq expres

	root_Z10	root_Z13	root_Z39	leaf_Z10	leaf_Z23	leaf_Z71	stem_Z30
TaNPF1.1	0.0918027	0.0530592	0.0782193	0.0216992	0.0130736	0.1652372	0.0504981
TaNPF1.2	0	0	0.0188013	0.0070765	0.0059231	0	0
TaNPF2.1	0.3185183	0.1175609	0.1212134	2.4987235	13.1103	15.480745	1.669202
TaNPF2.2	0.8274386	1.509071	1.1804062	2.6537065	5.188854	9.541475	1.4513513
TaNPF2.3	0	0.1497233	0.1560961	0	0	0.0507226	0
TaNPF2.4	0.0185982	0.0280226	0.0218877	0	0.0070941	0.0530912	0.0791796
TaNPF2.5	0.22546	0.2495961	0.4169105	0.1717255	0.2042053	0.5619393	0.3319374
TaNPF2.6	242.01505	247.43455	242.6457	79.83935	56.13375	63.604945	136.7265
TaNPF2.7	0	0	0	0.303734	0.526736	0.0500279	0.034441
TaNPF2.8	0	0.0264123	0	0	0	0	0
TaNPF2.9	0.2387915	1.253088	1.0322305	0	0	0.0072637	0.092933
TaNPF2.10	0.3253589	3.1971915	3.115655	0.9624646	3.16037	0.823895	0.6019696
TaNPF2.11	2.2717408	7.2195528	5.4011878	0.8524921	2.7900855	0.3184917	0.2330063
TaNPF2.12	29.06462	26.279225	24.34787	3.9719145	4.402175	1.592377	8.73777
TaNPF2.13	0.1511937	0.452161	0.3008326	7.5754685	4.5074425	0.1997094	0.8182089
TaNPF2.14	1.6347902	1.9823739	2.2535555	0.682523	0.8912685	0.006711	6.736005
TaNPF2.15	59.555648	42.111781	40.658655	1.896436	3.4328906	0.0286728	2.6539631
TaNPF2.16	0	0.1479306	0.0478459	0	0	0	0
TaNPF3.1	0.3813213	0.4362716	0.3933591	11.58637	3.0738005	9.424765	2.8140928
TaNPF3.2	0.3108254	0.566374	0.5729125	0.6082415	1.7048625	1.559528	1.54118
TaNPF3.3	1.1811935	3.2072905	3.13625	0.0269269	0.0117251	0.0418279	0.125276
TaNPF3.4	3.588586	2.3484225	2.1370765	4.7632321	1.4381486	5.1539292	2.68599
TaNPF4.1	7.49601	10.70472	8.99439	3.062125	8.230815	39.162495	3.6405435
TaNPF4.2	43.46065	41.22387	43.181785	3.180438	4.422597	13.545035	12.829145
TaNPF4.3	2.564413	0.4517101	0.4808991	0.262487	0.0865165	0.0842975	0.1172788
TaNPF4.4	6.768439	5.96162	5.9771329	2.9250175	3.917783	1.2414575	7.4159985
TaNPF4.5	2.337242	0.6698899	0.4712462	1.628869	0.4517736	0.0088813	8.283744
TaNPF4.6	1.238664	5.6670945	5.4268255	0.4998216	2.0603771	2.561032	0.555392
TaNPF4.7	5.0472965	8.05498	7.975295	2.7091445	1.013866	0.6873273	2.3238215
TaNPF4.8	0.1332508	0.375141	0.3318515	0.0557578	0.4028059	2.8685235	0.4471775
TaNPF4.9	4.369944	9.09126	8.46316	2.513896	2.545923	1.1213927	26.286855
TaNPF4.10	0	0	0	0	0	0	0
TaNPF5.1	0.0270182	1.9670299	1.7055525	0.0076638	0	0.0149387	0
TaNPF5.2	0.2158142	1.63084	1.356622	0.3518005	0.7410847	4.266792	0.727399
TaNPF5.3	0.2738044	1.0208527	1.0507192	0	0	0.0073454	0.0352118
TaNPF5.4	1.8451885	1.459267	1.2284025	2.3559375	4.229515	8.25461	0.3352571
TaNPF5.5	2.294461	3.037287	2.547393	2.0072114	1.6428773	2.6656185	2.3693515
TaNPF5.6	1.170178	1.048641	1.18795	0.233377	0.3206655	0.315983	0.4314345
TaNPF5.7	3.92644	18.31874	15.752165	1.295601	17.120465	43.4686	1.3441315
TaNPF5.8	0.325695	2.815897	2.17969	0.386932	0.786789	0.066526	0.2513073
TaNPF5.9	9.5997415	42.494567	32.077558	0.7123627	4.208196	2.4491656	1.3312391
TaNPF5.10	0.0132516	2.8669198	1.9511536	0.034357	0.664167	1.604374	1.618117
TaNPF5.11	1.964531	2.4572745	2.139097	0.4400592	1.811409	8.04017	0.3156056
TaNPF5.12	8.159015	11.41366	9.893525	3.6955005	2.756996	2.4531575	6.60843
TaNPF5.13	1.510947	3.51754	3.3348	0.0417326	0.1303643	0.0833018	0.1368506

TaNPF5.14	0.0113872	0.0299864	0.0469674	0.0096193	0.0101353	0	0.0115789
TaNPF5.15	12.535055	89.1444	69.6073	5.01688	3.295408	1.6470905	27.74639
TaNPF5.16	1.019367	32.576088	24.645507	4.6115375	3.23251	3.9419	4.825775
TaNPF5.17	7.19133	21.59054	18.164265	5.546847	8.032785	12.128435	3.8185455
TaNPF5.18	0.6488813	0.618075	0.485261	0.83136	1.0470685	1.329913	0.408963
TaNPF5.19	3.287579	2.927524	2.8015225	2.309501	4.121395	5.5320165	5.690945
TaNPF5.20	32.89105	44.1685	40.3431	9.754395	3.44775	7.349108	11.23029
TaNPF5.21	0.5059855	1.3720045	1.354243	0.0613728	0.0695265	0.4585286	0.2749571
TaNPF5.22	0.7709932	1.796012	1.7615425	0.2315044	0.0221154	0.0107666	0.2927654
TaNPF5.23	1.077254	3.3268346	3.02506	0	0.0356545	0.231458	0.1655592
TaNPF5.24	13.835722	11.408822	10.916247	2.176121	3.074595	3.384115	3.889411
TaNPF5.25	0.0234619	0.0131675	0.0309838	0	0.086508	0.0829558	0
TaNPF5.26	7.9199545	13.77467	14.177365	0.1601939	0.3721093	0.3234664	0.7875013
TaNPF5.27	0.0267546	0.0223356	0.0151435	0	0	0	0
TaNPF5.28	1.1966847	0.6565995	0.4747326	1.5397119	1.8252143	0.6842096	1.2114517
TaNPF5.29	10.821061	6.2023144	6.6120165	5.3299204	4.5731255	3.361982	4.8108595
TaNPF5.30	3.32976	2.5432909	2.5573706	0.0528765	0.0080966	0	0.0187656
TaNPF5.31	4.9323335	6.0222505	5.778214	4.52414	2.130751	1.4182691	1.252831
TaNPF5.32	0	0	0	3.42349	1.28871	0.620867	0.044014
TaNPF5.33	0.2878749	1.523827	1.6441915	0.0082839	0.0379793	0.2253409	0.1446755
TaNPF5.34	0.0653175	0.0478832	0.058153	1.925306	3.192462	22.54433	5.149505
TaNPF6.1	33.53717	54.6191	55.235705	18.128685	24.19712	26.63137	56.63125
TaNPF6.2	9.9701265	51.889805	55.48861	0.0495174	0.0133118	0.0138251	0.0529644
TaNPF6.3	8.74994	28.74641	28.39113	21.789835	21.322625	9.830105	3.642885
TaNPF6.4	6.7201215	3.1213855	3.59526	4.0471845	1.6502874	0.0090229	16.198455
TaNPF6.5	8.56687	3.952685	3.347119	11.85403	10.67546	3.812556	8.132075
TaNPF6.6	0.312606	0.925994	0.9228585	3.439204	11.179612	32.274185	4.048942
TaNPF6.7	0.0125663	0.0100149	0.0034827	0	0	0.0236384	0
TaNPF6.8	3.17738	5.4039085	3.25471	3.4909119	1.400195	0.6519685	2.1135655
TaNPF7.1	64.51635	30.726655	32.08353	0.822673	2.172003	2.3814745	4.213879
TaNPF7.2	0.2039194	1.8160996	1.8680748	0.8694939	1.076436	0.6956543	2.8979431
TaNPF7.3	12.491602	29.17864	25.796048	1.395683	2.1675449	0.6146005	0.2473987
TaNPF7.4	1.2184325	12.15163	9.987335	0.0754883	0.173208	0.3900965	0.0608288
TaNPF7.5	1.8720947	3.5949185	3.662144	1.075344	1.2053674	3.741066	0.2756891
TaNPF7.6	32.757896	42.657093	40.657024	26.97729	26.388478	34.634635	29.05588
TaNPF7.7	8.30618	17.768545	16.735945	6.577875	3.487209	1.068633	3.584541
TaNPF7.8	13.803605	7.67479	7.3841	4.17602	3.121554	1.8361285	3.50708
TaNPF7.9	4.623599	20.352833	19.564859	0.5917923	3.4107163	2.5558401	0.4893802
TaNPF7.10	0.0058473	0	0.0430076	0.0138716	0	0.3027756	0.0603013
TaNPF8.1	0	0	0.0081399	0	0	0	0
TaNPF8.2	0.0085736	0.0182343	0	0.0089024	0.024912	0.0108761	0.0202089
TaNPF8.3	0.2521856	0.3975512	0.3835272	0.2262047	1.6186255	9.676263	0.1018544
TaNPF8.4	24.262915	32.100705	29.40237	11.143585	12.14158	19.54955	8.621785
TaNPF8.5	0.0294077	0.1182364	0.0678981	0.007525	0.0598447	0.0240897	0.0344706
TaNPF8.6	5.6344539	16.198422	13.585915	1.8226834	4.673039	23.718951	6.9007325
TaNPF8.7	1.2939205	2.287636	1.9172325	0.0499797	0.1558107	0.0904975	3.3438015
TaNPF8.8	0.1988355	0.264825	0.1984085	0.0453155	0.0913654	0	0.242125

TaNPF8.9	16.363225	35.70917	32.23017	13.785795	10.325656	15.906805	17.559375
TaNPF8.10	4.5099126	8.5605955	8.2238345	1.4086874	3.3094318	6.926197	1.1959218
TaNPF8.11	9.087E-07	2.676E-05	3.012E-05	0.0503735	0.0460903	0.4614741	0
TaNPF8.12	7.3802735	11.41479	10.41191	4.522983	6.71255	6.661575	3.944082
TaNPF8.13	0.0210585	0.2152455	0.210781	0	2.3377665	7.307431	0
TaNPF8.14	8.8290726	7.0361192	6.554301	1.7882657	0.8586254	0.1060792	2.2240575
TaNPF8.15	2.585717	9.571542	8.006827	0.0152572	0.1315625	0.0074329	0.3656071
TaNPF8.16	1.119287	5.9695337	5.2292064	6.04566	7.52193	6.132215	1.9424795
TaNPF8.17	0.581896	2.122354	1.26262	0.214234	0.613766	0.1514575	0.279674
TaNPF8.18	1.2932905	2.733566	2.325703	1.3233565	3.5343575	0.5206427	1.352074
TaNPF8.19	1.2653235	1.4978656	1.5071468	5.99099	12.127825	3.295583	1.660921
TaNPF8.20	1.4797945	16.692841	13.790796	1.0216803	0.3419655	1.6149451	0.6254635
TaNPF8.21	0	0.0045975	0.0242135	0.0640872	0.0159187	0.0116305	0
TaNPF8.22	4.8232095	6.7500465	6.055483	3.0492905	1.564066	1.028837	2.698202
TaNPF8.23	4.910673	10.85723	9.68005	1.1805825	0.2429291	0.1012812	1.3390675
TaNPF8.24	4.00597	2.8692735	2.155561	10.028535	7.642759	0.5658193	11.642069
TaNPF8.25	0.3657413	1.4319145	1.381493	0.5267113	0.3095241	0.0602144	2.5534645
TaNPF8.26	0.8166676	0.8890795	0.6442617	0.952263	0.2811006	0.8812955	0.4270617
TaNPF8.27	3.7521285	7.098195	5.088799	5.892271	3.7427295	2.6017475	3.3544619
TaNPF8.28	1.3394894	0.1461495	0.325648	1.4168383	4.0887285	1.4574305	3.4597728
TaNPF8.29	5.9193915	14.007392	12.092403	2.1804618	2.053981	5.88577	3.244503

Expression data of mean homoeologous NPF genes in transcript per million (tpm)

stem_Z32	stem_Z65	spike_Z32	spike_Z39	spike_Z65	grain_Z71	grain_Z75	grain_Z85
0.4764864	0	0.6934874	1.658111	0.812853	0.1213845	0.1063009	12.139735
0	0	0.4602485	9.72736	0.1482236	0.2904813	0.040585	0.0748557
7.438405	0.4929702	5.207804	8.51201	4.0710635	32.54613	1.3513615	0.7654228
7.202571	15.406755	0.4564023	8.0123887	12.42756	11.525885	1.919605	0
0	0	0	0.0181929	0.0078523	0	0.0045567	0
0.0647404	0.0147051	0.0147045	0.055193	0.0221343	0.0413474	0.0085287	0
0.6225065	0.3614145	2.0887275	5.311695	14.974058	27.694791	1.969284	0.3621965
140.8943	98.25375	26.81823	240.49245	93.3462	134.99145	18.86031	11.96895
0	0	0.051667	0.0383574	0.0523968	0.184962	0.0046905	0
0.0204847	0	0	0	0	0.0389151	0.0084395	0.7064645
0.0083518	0	0	0	0	0	0.0121701	0.0079737
1.3019205	4.031	2.174E-05	0.7548381	6.5605335	0.0161698	0.0038636	0
1.5058233	1.8135921	0.0171788	0.3947053	2.2140112	0.006693	0.0073347	0
8.55253	19.03071	3.763902	10.115008	9.98979	0.4139866	0.0436371	0.0374693
1.5438886	0.8661921	0.0142845	1.3898855	0.5372968	1.3762	0.0265461	0
2.136734	0.2929643	0.3424728	2.321325	1.8804615	0.2186161	0	0.008104
1.0420058	0.6972935	0.211382	0.8030132	0.0298906	0.0083319	0.0168662	0
0	0	0	0	0	0	0	0
2.2777675	9.837715	2.1048245	3.6622115	19.563825	0.3269775	0.357437	3.114017
7.206753	7.697228	0.2411117	0.3798868	0.5167488	0.0442916	0.9575666	1.1173083
0.034504	0	0.0065785	0.0712754	0	0.3918042	0.0140075	0
3.116816	1.850083	1.2769765	6.049513	59.1474	0.746647	0.1101521	3.2571865
8.660265	2.867824	1.3053995	3.2154635	17.47901	9.552875	2.454556	9.822905
26.206025	3.769957	3.909491	2.4477665	1.016953	0.5261261	0.1508049	0.3489492
0.202474	0.4448745	0.2202463	0.5471741	0.7010144	0.3716934	0.1363941	0.4186563
34.6661	63.20997	1.7462725	5.0611285	14.9703	24.824048	0.5544513	0.0137652
0.831438	0.4986075	0.0069098	1.8625358	1.6982017	0.0075405	0	0
0.6513249	2.153998	0	0.009025	0.1436703	0.0093928	0.0169449	0
1.6732245	2.287215	3.548619	3.9665895	2.4417005	2.181652	0.1438454	0.3077485
0.6402085	0.4870735	0.9795509	1.1189449	2.2863852	0.2508516	0.1268575	0.8915327
11.73699	6.3890835	13.97066	17.1154	1.2586741	0.5716855	0.0250962	0.078677
0	0	0	0	0	0.0111724	0	0
0.2127784	0.0938214	0	0	0.0077873	0	0	0.008201
2.826747	5.681004	0.4923488	2.3176585	9.703495	2.268212	0.2385396	3.6381555
0	0	0	0	0	0	0.0191995	0
1.3614625	7.5755165	0.1242374	0.5668303	44.8181	10.184782	0.4897975	0.1527149
1.9750071	0.6207281	5.798908	5.33694	2.7936725	3.2393275	0.5823896	0.6051808
0.4745415	0.471797	0.4904985	0.6830531	0.6512196	0.5725547	0.0943035	0.3457952
1.7136434	17.082605	1.0388425	1.607487	3.00481	5.309557	0.1588034	1.8578305
2.4277945	0.6116382	0.8817143	0.940159	4.4103675	10.653395	0.3883884	0.0852977
41.213695	8.577168	1.2573872	1.4614565	10.903748	0.944147	4.310761	0.1546778
1.3671965	1.471183	0.1294204	0.2973547	0.2515502	2.0824195	0.05218	0.0734057
2.7183615	2.888125	0.2867032	0.8844685	3.20248	0.598299	0.1255177	0.6072768
15.865165	4.976845	6.50235	9.93073	20.59592	17.828465	1.399052	11.1633
0.162195	0.0620232	0.0237744	0.0649984	0.4609832	0.3531111	0.0351079	0

0.0301133	0.0463467	0	0	0	0	0	0.0119026
36.9574	65.49615	2.4513405	2.9476495	4.827745	17.54609	1.97537	3.336605
3.703137	3.1329537	1.02062	1.5841012	10.678565	3.643864	2.0694425	11.4578
9.289935	5.909882	0.4985295	5.3674905	5.407248	10.094355	0.2357359	0.0332621
1.4102144	1.7734175	0.6466394	0.8525608	1.11231	0.7616325	0.0813939	0.5677875
6.125635	4.043067	4.1120895	6.60914	5.4794985	3.935834	0.4367146	1.310915
11.173605	7.925959	1.2656115	2.717786	3.3861085	9.13405	0.2426741	1.7469345
0.0158197	0.1204607	0.2126246	0.1049724	0.1446994	0.2773626	0.0562848	0.785508
0.1021698	0.1415702	0.0170278	0.0725262	0.4142335	0.0467585	0.0744424	0.0697687
0.4139486	0.9943811	0.0240771	0.0615065	0.2056631	0.1230989	0.008311	0
4.6216785	3.135382	0.825913	2.6282075	2.1769415	3.1471695	0.1331892	0.0300661
0	0	0	0	0	0	0	0
0.4277087	0.0275266	0.0672951	0.3168393	0.1396485	0.6841143	0.0274745	0.0340289
0	0	0.0101114	0	0	0	0	0.0106746
6.43142	1.8475575	0.7674454	1.0711685	1.0742255	0.0932085	0.0174071	0
20.891316	12.273501	4.328316	6.9896672	11.1178	10.663282	0.598288	3.6177493
0.0092722	0	0	0.1022616	0	0	0	0
3.822355	7.1361785	0.0079443	0.9169313	4.055168	0.1031146	0.024339	0
0.0259213	0.3625075	0.0661373	0.2453233	0.0162167	0	0	0
0.1029604	0.0912136	0.0083974	0	0.0794128	0.0170874	0	0
8.290295	13.643865	0.2165548	2.5367256	6.358316	0.3322735	0.0959946	0.1419075
52.19275	22.663155	9.008485	32.463485	64.0461	2.482027	0.57501	53.606495
0.007631	0	0.0408493	0.0243464	0.160446	0.007952	0	0
4.64735	1.90687	0.2853433	0.7636969	2.1564265	0.0566205	0.0214962	0.0066104
11.893085	1.4534133	13.572505	13.882915	1.126015	1.0150177	0.0842167	0.4181675
12.664555	6.394422	0.2543782	0.7303988	0.9956487	0.3911433	0.0796408	0.1279106
2.7173965	10.184684	0.002695	1.4035655	1.7260636	0.0496003	0.0134616	0
0.0853508	0.0144223	0.2016156	1.2492855	6.55487	0.0750627	0.0098982	0
2.528525	1.4731061	0.1379115	8.40835	2.0649407	9.35256	0.089859	1.1184645
20.892045	15.986325	1.0840735	1.82489	16.76831	4.41843	1.2206335	0.0057533
26.887257	0.5328007	0.5466772	3.229499	10.371999	0.0861196	0.1293379	4.102343
0.206189	0.0310002	0.0244562	0.2168263	0.4336436	1.625879	0.0860036	0
0.8746616	0.0146851	0.0404238	0.0382451	0.5762959	0.1931312	0.0648619	0
1.4975736	3.839849	0	0.0469313	1.9468405	1.582707	0.0642152	0.0640564
42.681225	72.855838	22.163003	63.006185	81.512457	90.252115	6.2724405	52.488217
6.831725	33.6063	2.3427395	23.346575	66.1276	69.6159	2.98179	13.367935
11.94398	8.6054	4.91486	3.937155	3.98063	8.98377	0.4997925	2.0151785
0.3424276	0.0458564	0.2027982	0.5962862	0.2978429	0.7066501	0.1504906	0.7040297
0	0.0136964	0.0262492	0.0214472	0.0262765	1.1992015	6.8411665	0.0789903
0	0	0.0816299	0	0.0785219	0.2746004	0	0
0.0099815	0	0.0171354	0	0	0	0	0
0.1736173	2.74005	0.2513666	0.2265942	0.1085569	0.0190051	0.0068105	0
22.745005	29.06501	11.165235	19.95673	31.78245	35.097325	4.6346715	12.331672
0.0610864	0.0233174	0.1007925	1.449278	0.1561327	0.437187	0	0
12.11826	4.627219	2.3875723	8.2970671	10.732631	9.4679053	0.7718927	0.3692986
3.4865525	0.206286	0.0239585	0.0714622	0.0911203	0	0	0
0.1834236	0.24269	0.0352506	0.0102858	0.0710109	0	0	0

20.835945	38.444965	10.812395	30.10171	23.05823	25.04177	4.1652246	6.7912785
2.5166485	2.7319108	0.6235184	1.5808258	1.1030615	1.2686299	0.0748084	0.4241096
0.0119832	0.1803416	0.0038105	0	0.1563551	0.0257057	0.1065139	0.0768755
5.3401605	6.306265	5.660671	7.217395	9.41858	5.736286	0.5484879	2.0850634
0.0390209	0.117819	0	0.008385	0.0665474	0.0093156	0	0
6.689025	5.327892	2.2821339	2.2094252	0.7632434	0.1078096	0.4217635	0.3594269
0.0981459	0.0156067	0.0458818	0.3714424	0.2775062	0	0.0083496	0.007908
11.68055	74.82445	0.2327	5.7689615	10.56494	0.4213209	0.1823745	0
1.42252	1.29423	0	0.2111725	0.5837245	0.113408	0.0265767	0
5.418507	8.564125	0.0432254	4.9799465	4.488238	0.0386145	0.0543962	0.0376016
1.854157	2.917692	0.3192707	3.252667	2.2671145	3.0718755	0.5046397	0.7593819
1.135676	5.600821	0.0226879	0.2028397	15.4941	1.5077221	0.1602392	0
0.0106765	0	0	0.0104739	0.0086579	0	0	0
4.405164	3.7050985	3.9414355	5.8674185	10.122965	6.83517	0.3526419	1.1372558
1.101844	2.3714987	0.3168424	0.4174127	1.842543	0.0708689	0.0260218	0.0255354
8.4666621	18.394284	4.7072977	7.905287	1.5367784	2.491476	0.1403835	0.1014754
1.2182565	1.1087625	0.5878059	3.8999775	2.7815937	0.2436183	0.0528996	0.1685862
1.7979885	3.688627	0.1423237	0.3205563	0.5583922	0.5138056	0.0035508	0.0434419
4.3759645	13.264845	0.6118798	2.17971	2.110748	0.963866	0.0161688	0.0370302
18.782496	4.54804	2.9980118	2.1304585	1.295599	0.4360127	0.0120698	0.0477425
2.174087	1.796475	1.5674635	5.3949005	5.2868655	3.757444	0.2983241	0.6081528

Table S7. Fold changes (≥ 3 folds) of NPF genes expression under various abiotic and biotic stresses

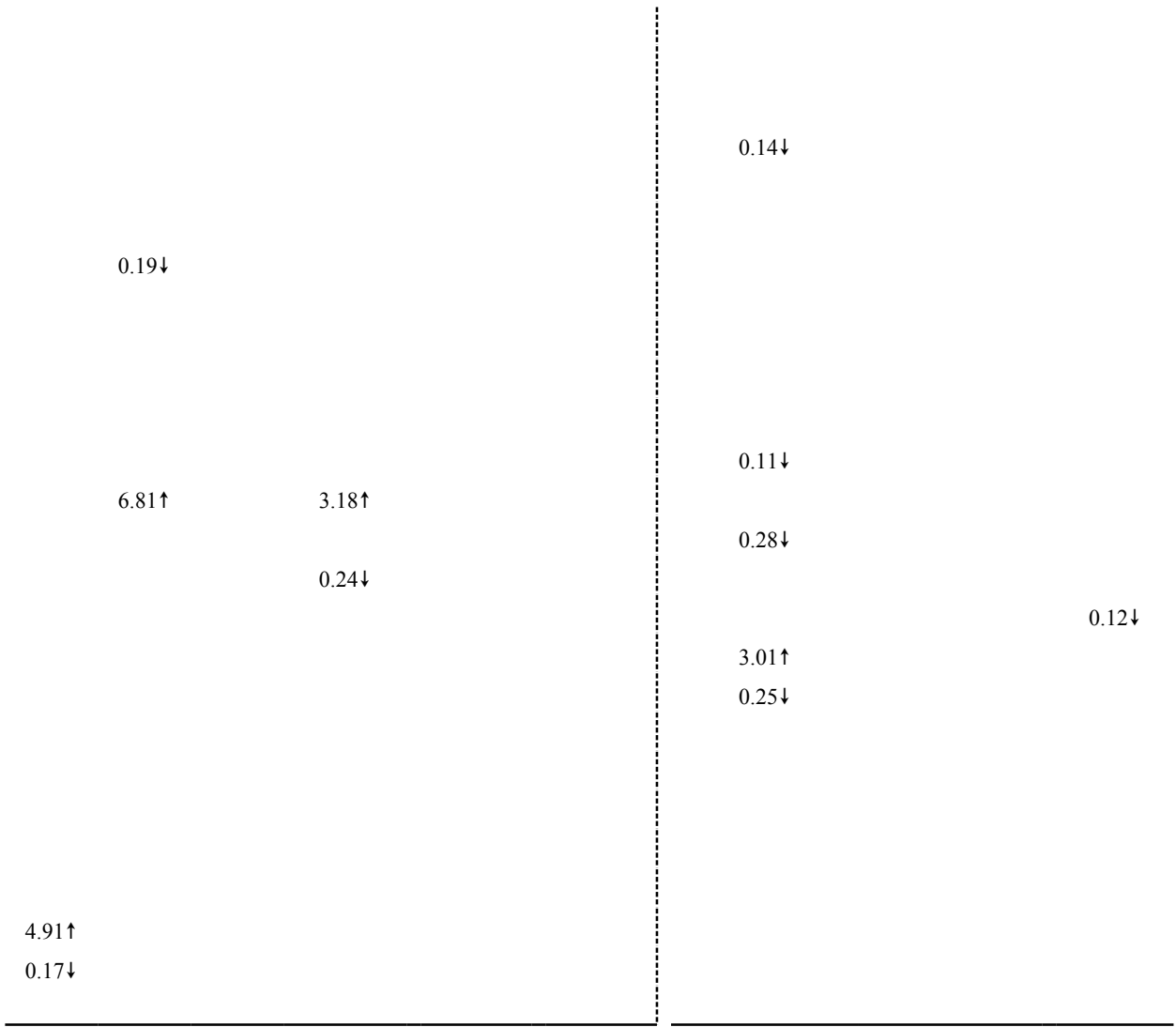
Note: NPF genes in gray font indicate no response of gene expression to stresses (< 3 fold changes), in red respectively. The bold fonts in the table indicate ≥ 10 fold changes of genes expression.

wheat NPF gene ID	leaf_heat		leaf_drought		leaf_heat & drought		shoots_4°C	leaf_PEG	
	1h	6h	1h	6h	1h	6h	2 weeks	2h	12h
<i>TaNPF1.1</i>							11.93↑		
<i>TaNPF1.2</i>			4.53↑			7.45↑			
<i>TaNPF2.1</i>		5.99↑				3.06↑	4.38↑		
<i>TaNPF2.2</i>	0.25↓	5.17↑		0.29↓	0.19↓				
<i>TaNPF2.3</i>									
<i>TaNPF2.4</i>									
<i>TaNPF2.5</i>				4.54↑	0.17↓	0.17↓	4.42↑	0.31↓	
<i>TaNPF2.6</i>					0.14↓	0.24↓			
<i>TaNPF2.7</i>							13.44↑		
<i>TaNPF2.8</i>									
<i>TaNPF2.9</i>									0.40↓
<i>TaNPF2.10</i>									
<i>TaNPF2.11</i>									5.53↑
<i>TaNPF2.12</i>							0.29↓		
<i>TaNPF2.13</i>				0.11↓					
<i>TaNPF2.14</i>	0.14↓	0.10↓		0.31↓	0.32↓			3.54↑	10.11↑
<i>TaNPF2.15</i>		0.24↓						4.14↑	
<i>TaNPF2.16</i>									
<i>TaNPF3.1</i>	0.25↓				0.08↓	0.09↓			
<i>TaNPF3.2</i>									
<i>TaNPF3.3</i>									
<i>TaNPF3.4</i>		8.02↑	3.53↑	37.96↑		6.27↑	20.93↑		
<i>TaNPF4.1</i>			5.34↑						
<i>TaNPF4.2</i>					0.15↓	0.28↓			
<i>TaNPF4.3</i>	0.21↓	6.42↑		0.11↓	0.02↓				0.16↓
<i>TaNPF4.4</i>		4.83↑				4.78↑			
<i>TaNPF4.5</i>		0.25↓			0.29↓	0.14↓	0.19↓		3.9↑
<i>TaNPF4.6</i>		0.13↓		0.18↓		0.12↓			
<i>TaNPF4.7</i>									
<i>TaNPF4.8</i>	0.25↓								0.19↓
<i>TaNPF4.9</i>	0.23↓	0.11↓			0.10↓	0.21↓			
<i>TaNPF4.10</i>									
<i>TaNPF5.1</i>									
<i>TaNPF5.2</i>					0.13↓				
<i>TaNPF5.3</i>									
<i>TaNPF5.4</i>				0.19↓	0.33↓	0.14↓			
<i>TaNPF5.5</i>	0.26↓	0.27↓			0.20↓	0.17↓			
<i>TaNPF5.6</i>									
<i>TaNPF5.7</i>				0.29↓	0.24↓	0.20↓			
<i>TaNPF5.8</i>		0.16↓			0.20↓				
<i>TaNPF5.9</i>	0.07↓				0.10↓	0.32↓			

Red font indicate specific response to abiotic stresses only, and in blue font indicate specific response to biotic stresses.

spike_drought				root_-P	shoot_-P	spikelets_Fg inoculation with		leaf_Powder
AR3	AR5	AR6	AR8	10day	10day	ABA_24h	GA_24h	24h
			0.20↓			4.34↑		4.75↑
						5.62↑		
								3.46↑
								<u>0.09↓</u>
						0.19↓		
	0.26↓							
		0.30↓						
					3.23↑			
						<u>45.42↑</u>	4.29↑	
	0.17↓							
0.13↓	4.52↑					3.74↑		
5.28↑								
		3.15↑	3.54↑			0.12↓		
			3.41↑					
			0.27↓			3.88↑		
0.19↓	0.24↓							
								<u>12.07↑</u>
			3.12↑					

			0.20↓		
			0.19↓		
3.60↑	0.33↓	4.30↑	6.53↑		
			9.24E-7↓		0.31↓
					0.22↓
					0.11↓
				4.48↑	
			0.29↓		
	0.31↓				
			0.30↓		
				9.21↑	0.20↓
					0.20↓
5.87↑		3.11↑			
	0.31↓				6.22↑
			3.18↑		<u>330.18↑</u>
					3.60↑
					<u>115.48↑</u>
				0.08↓	



0.25↓

8.50↑

3.08↑

0.26↓

0.27↓

0.10↓

0.10↓

0.07↓

0.07↓

5.30↑

4.52↑

0.26↓

0.20↓

0.23↓

0.28↓

0.18↓

3.27↑

0.15↓

0.12↓

0.15↓

0.08↓

0.10↓

0.26↓

0.27↓

0.21↓

0.29↓

91.10↑

28.49↑

13.79↑

7.43↑

10.84↑

6.42↑

					7.39↑
			6.85↑	5.54↑	
				3.61↑	
4.03↑					
		3.01↑			
					0.31↓
					0.31↓
					0.30↓
0.12↓	<u>0.10↓</u>				
		0.11↓	<u>0.07↓</u>		<u>10.65↑</u>
4.79↑					
					0.29↓
					0.21↓

Table S8. Comparison of in this study identi

No.	NPF genes accession ID
1	TraesCS1A02G031300
2	TraesCS1A02G150200
3	TraesCS1A02G150400
4	TraesCS1A02G197600
5	TraesCS1A02G197700
6	TraesCS1A02G210900
7	TraesCS1A02G211000
8	TraesCS1A02G257400
9	TraesCS1A02G257800
10	TraesCS1A02G257900
11	TraesCS1A02G269400
12	TraesCS1A02G269500
13	TraesCS1A02G269600
14	TraesCS1B02G168100
15	TraesCS1B02G212200
16	TraesCS1B02G212300
17	TraesCS1B02G212400
18	TraesCS1B02G267900
19	TraesCS1B02G268200
20	TraesCS1B02G279900
21	TraesCS1B02G280000
22	TraesCS1B02G280100
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Corresponding gene No. in Bajgain *et al.*, 2018

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TaNT302
TaNT194, 195
TaNT205, 238
TaNT57, 60
TaNT11, 13
TaNT388, 446
TaNT406, 410
TaNT407
TaNT376, 379
TaNT377
TaNT333
TaNT299, 301, 303
TaNT199
TaNT206
TaNT196,237
TaNT387
TaNT408
TaNT382
TaNT336, 380, 383
TaNT336, 337, 339
TaNT12, 15, 17
TaNT309, 314
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TaNT202, 236
TaNT58, 59
TaNT16
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TaNT409
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TaNT338, 340
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TaNT167, 463
TaNT220, 221
TaNT65, 111
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TaNT66
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TaNT108, 109, 193
TaNT162, 455
TaNT275

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TaNT371
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TaNT43

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Table S9. Identification of non-NPF NRT genes in Bajgain *et al.*, 2018

No.	Other NRT genes	Clade	Interprotein domain IDs
1	TaNT1, 139	5	IPR011701; IPR020846
2	TaNT2, 6	5	IPR011701; IPR020846
3	TaNT3	5	IPR011701; IPR020846
4	TaNT4	5	IPR011701; IPR020846
5	TaNT5	5	IPR011701; IPR020846
6	TaNT6, 33	5	IPR011701; IPR020846
7	TaNT7	5	IPR011701; IPR020846
8	TaNT7	5	IPR011701; IPR020846
9	TaNT8, 9	5	IPR011701; IPR036259
10	TaNT10	5	IPR011701; IPR020846
11	TaNT31	5	IPR011701; IPR020846
12	TaNT32	5	IPR011701; IPR020846
13	TaNT34	5	IPR011701; IPR020846
14	TaNT35, 76	5	IPR011701; IPR020846
15	TaNT64	5	IPR011701; IPR020846
16	TaNT140	5	IPR011701; IPR020846
17	TaNT470, 476	5	IPR011701; IPR020846
18	TaNT471, 477	5	IPR011701; IPR020846
19	TaNT472, 474	5	IPR011701; IPR020846
20	TaNT473	5	IPR011701; IPR020846
21	TaNT475	5	IPR011701; IPR020846
22	TaNT489	5	IPR011701; IPR020846
23	TaNT494	5	IPR011701; IPR020846
24	TaNT495	5	IPR011701; IPR020846
25	TaNT496	5	IPR011701; IPR020846
26	TaNT497	5	IPR011701; IPR020846
27	TaNT499	5	IPR011701; IPR020846
28	TaNT500	5	IPR011701; IPR020846
29	TaNT87	1	IPR016605
30	TaNT88, 91	1	IPR016605
31	TaNT89	1	IPR016605
32	TaNT92	1	IPR016605
33	TaNT94	1	IPR016605
34	TaNT95	1	IPR016605
35	TaNT96	1	IPR016605
36	TaNT97	1	IPR016605

IWGSC gene ID
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TraesCS6A02G031100
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no IWGSC ID gene present
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Table S10. Primer sequences used for RT-qPCR expression analysis - 4

Gene symbol	Forward Primer
<i>TaNPF1.1</i>	CGAGGAAGGGCAGATCAGART
<i>TaNPF2.5</i>	TGTCCTGCAGAGAGTATATACTTG
<i>TaNPF2.6</i>	CCTCTTCTACTGGATGATCGCC
<i>TaNPF2.10</i>	CATTGCAGCAAGAGAGACCATAC
<i>TaNPF2.11(7D)</i>	GGTACCAGAACATCGGCAAGTA
<i>TaNPF2.12</i>	CTTGMTTTTGGGTGTGATGAACG
<i>TaNPF2.15</i>	CAACTTTCCTACTTCCTCGC
<i>TaNPF3.1</i>	CAGAAGGTTTGAGCGAGTAACAC
<i>TaNPF3.2</i>	GGCTCGTCACCTGCCTCATG
<i>TaNPF4.1</i>	GCGCTCAACTACGTCTTCTTCTTG
<i>TaNPF4.2</i>	TCAGCGTGCTCAACTTCTTCTG
<i>TaNPF4.4</i>	WTCTTCGCCAGGAGGTATGTG
<i>TaNPF4.6</i>	CTCTGCAACTACTGTCACCAATC
<i>TaNPF5.4</i>	CCACCAACWCCATGAGGTTCC
<i>TaNPF5.5</i>	ACTACTACTACGCGCTCCTCAC
<i>TaNPF5.7</i>	GGTCACCCACGTYGTTGATG
<i>TaNPF5.8(5A)</i>	CGCATAGGCATAACCAATTAGTG
<i>TaNPF5.9(1)</i>	CATCRTCAACATTTTAACCACCAGAG
<i>TaNPF5.15</i>	CCGCGTTCGTGGTYGTCTC
<i>TaNPF5.16(3B)</i>	ATAGAGTGCGAGGTAGATTGTCAT
<i>TaNPF5.20</i>	TGCAGAACCTGGTAAACGCATC
<i>TaNPF5.26</i>	GTTCTCCGACAACCTCAAYCG
<i>TaNPF5.30</i>	GCTGAAGCAAGGACCTACCATG
<i>TaNPF5.32</i>	TTTGCTCGTCTTGGTCGTAGTG
<i>TaNPF5.34</i>	GGTCACTTATGTGGTACTTGAAGA
<i>TaNPF6.3</i>	CAYGGGAGCAACGACGGCTG
<i>TaNPF6.4</i>	GAACCTCGGTGACGATGGTGATGA
<i>TaNPF6.6</i>	AGCAGGRTCARCCTCAACAATG
<i>TaNPF7.1</i>	CTACAAGACCTGCGCCATCTTC
<i>TaNPF7.3</i>	CAATGAACACGAGACCCTGCTC
<i>TaNPF7.4(2D)</i>	AAGGTTCTTTCTTTAGGTAGCAGTT
<i>TaNPF7.6</i>	TTCTCCGTCCCTCCTGCTTC
<i>TaNPF7.7(1B)</i>	GCACTGCTCCGTACTATGATGA
<i>TaNPF7.10</i>	AAGAAGATTGCACACACACCAGG
<i>TaNPF8.4</i>	GAGGCAAGCARGGGTGGATC
<i>TaNPF8.9</i>	GCCAGTCCTTTGCAGTATAACC
<i>TaNPF8.13</i>	TTGGACTGTTTGGGTACATCTAG
<i>TaNPF8.15</i>	TGCAGCTGGARGAACCACTTC
<i>TaNPF8.16</i>	CACCGGCGTACACAATACTGG
<i>TaNPF8.17</i>	TGGGGTTGGTTCACGTTTGATAA
<i>TaNPF8.18</i>	GCTGCTACGTCTGTGCCCTG
<i>TaNPF8.19</i>	GTGGAGACGATGGACCCATG
<i>TaNPF8.24</i>	CGGTCTACACCATYGGGATG
<i>TaNPF8.28</i>	TGGGCTGCCTCAATCTGATG

Ta54227

CAAATACGCCATCAGGGAGAACATC

Ta2526

ACTGCAGCTGAGGAAAGAGC

5' to 3'

Reverse Primer

GCCTTGCCTATCATTGTGCTG
YCTGGCTAAACTACGCTACATTAG
CTGGTCCCCTTGAACCTGTAC
CTTCTTGTTCCTGGGTTCCCTG
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GTAGCCCTTGTC AACCTCATG
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TGTGGACGGAGGACAGCTCG
CRAAACCTCCATAAATTTACCTTGCC
AGCTGATCTCCTTGGCATCAC
GTTTGGTCGTGTATCATCATCTAG
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GGGAACATCAAGGATGAACTTCT
CCAGACCAGACATCGACTTGAA
CTTCCTTCTCTGCTRATGCCTG
CATGACAGCRCCACCGTCG
CAGAGTTCCTTGGATAGTTGGA
GGAAGGGTTCTTGGTGTGCTTC
ATCATTACTCAGGTTTGTSTCGGTAG
ACCTGGATTTGTAGACACGCATTC
CATGCTGGTTGCGACATCTTC
GGAAATGTTKTGTTGCCTTCCTG
ATGCGTTTCTCCTTGTACACGTAG
AGCGGTGCCTTAACCTCRACAAG
ATTGTCCAGAAGAGGATGCAGGTG
GATGAGGTATAGCCGCGAGGAG
TCTCCAGGCACTCRAACCCTAG
CACAGTATCACAGACCCAGGTT
RTTCCGGTGTATCGTCTGGC
CTGCCTTTCATATCTCCCAGCT
GATGCATTTCACTTGCTCCACTTG
TGAGGAGGTAGACGGCGAAG
ACACATGGCTTGATTCCACCAG
GTTTTCTCCACATAATCGGTGTC
ATGCTTTCCAACTGCCSGTAC
ACAGGCTCCTCATGCTGTGC
TACAGAGATTCACGCCCAATGAT
ATATATGGGGATCAATACAAGTGTGG
GGTGACCGCRAAGAAGAAGAG
AGGTACACCACCACAGCATG
CATATTGGTGAACATGGCTAACG

CGCTGCCGAAACCACGAGAC
CACACAGTGCCTGATCGAAG

Table S11. Reference gene and primer efficiency Normalised Relative Expression (NRE)

root	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF5.7
	Zadoks 23	low N	1	0.1120
			2	0.1666
			3	0.1212
		high N	1	0.1079
			2	0.0853
			3	0.0676
	Zadoks 45	low N	1	0.1470
			2	0.0989
			3	0.1374
		high N	1	0.1296
			2	0.1256
		3	0.0976	
leaf	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF6.3
	Zadoks 23	low N	1	0.0099
			2	0.0074
			3	0.0074
		high N	1	0.0082
			2	0.0061
			3	0.0078
	Zadoks 45	low N	1	0.0038
			2	0.0072
			3	0.0060
		high N	1	0.0196
			2	0.0207
			3	0.0219
	5 days post anthesis	low N	1	0.0039
			2	0.0053
			3	0.0084
		high N	1	0.0158
			2	0.0252
			3	0.0167
	14 days post anthesis	low N	1	0.0019
			2	0.0026
			3	0.0028
		high N	1	0.0072
			2	0.0050
			3	0.0086
	21 days post anthesis	low N	1	0.0020
			2	0.0024
		high N	1	0.0019
			2	0.0081
			3	0.0021
	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF5.7
	Zadoks 45	low N	1	0.0136
			2	0.0107

stem			3	0.0169
		high N	1	0.0276
			2	0.0088
			3	0.0060
	5 days post anthesis	low N	1	0.0617
			2	0.0560
			3	0.0968
		high N	1	0.0660
			2	0.0827
			3	0.0826
	14 days post anthesis	low N	1	0.0576
			2	0.0571
			3	0.0349
		high N	1	0.0635
			2	0.0384
			3	--
	21 days post anthesis	low N	1	0.0607
			2	0.0519
			3	0.0444
		high N	1	0.0576
			2	0.0469
			3	0.0493
	28 days post anthesis	low N	1	0.0458
			2	0.0531
			3	0.0662
		high N	1	0.0663
			2	0.0641
		3	0.0423	
node	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF6.3
	5 days post anthesis	low N	1	0.0128
			2	0.0198
			3	0.0110
		high N	1	0.0180
			2	0.0222
			3	0.0164
	14 days post anthesis	low N	1	0.0260
			2	0.0186
			3	0.0364
		high N	1	0.0252
			2	0.0222
spike	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF3.2
	Zadoks 45	low N	1	0.0129
			2	0.0047
			3	0.0043
		high N	1	0.0108
			2	0.0068
		3	0.0064	

grain	Developmental stage	Nitrogen (N) treatment	Biological repeats	NPF3.2
	5 days post anthesis	low N	rep1	0.0045
			rep2	0.0059
			rep3	0.0017
		high N	rep1	0.0041
			rep2	0.0086
			rep3	0.0044
	10 days post anthesis	low N	rep1	0.0018
			rep2	0.0018
			rep3	0.0021
		high N	rep1	0.0018
			rep2	0.0014
			rep3	0.0016
	14 days post anthesis	low N	rep1	0.0045
			rep2	0.0048
			rep3	0.0046
		high N	rep1	0.0040
			rep2	0.0041
			rep3	0.0025
	21 days post anthesis	low N	rep1	0.0046
rep2			0.0072	
rep3			0.0066	
high N		rep1	0.0064	
		rep2	0.0097	
		rep3	0.0083	
28 days post anthesis	low N	rep1	0.0030	
		rep2	0.0038	
		rep3	0.0037	
	high N	rep1	0.0019	
		rep2	0.0021	
		rep3	0.0044	

-- missing values were result from operation mistake or very high Cq (>30) value

* two replications were used in leaf of LN treatment at 21 dpa and node of HN tr

values of real time PCR expression analysis

NPF7.6	NPF7.7(1B)	NPF4.4	NPF4.2	NPF5.30
0.0466	0.0106	0.1422	0.0340	0.0014
0.0490	0.0066	0.1251	0.0552	0.0004
0.0248	0.0121	0.1197	0.0271	0.0007
0.0391	0.0158	0.1277	0.0270	0.0029
0.0347	0.0146	0.0964	0.0470	0.0054
0.0287	0.0160	0.1238	0.0477	0.0018
0.0444	0.0170	0.1655	0.0223	0.0003
0.0415	0.0180	0.1276	0.0146	0.0005
0.0351	0.0163	0.1299	0.0255	0.0002
0.0467	0.0218	0.1788	0.0393	0.0011
0.0395	0.0220	0.1640	0.0498	0.0013
0.0346	0.0199	0.1186	0.0208	0.0016
NPF7.6	NPF5.32	NPF5.34	NPF4.4	NPF4.2
0.0276	0.0004	0.0123	0.0220	0.0164
0.0278	0.0003	0.0166	0.0183	0.0208
0.0354	0.0004	0.0307	0.0198	0.0150
0.0371	0.0002	0.0095	0.0215	0.0133
0.0246	0.0004	0.0109	0.0210	0.0123
0.0370	0.0004	0.0149	0.0143	0.0067
0.0228	0.0001	0.0503	0.0064	0.0125
0.0270	0.0002	0.0295	0.0180	0.0126
0.0254	--	0.0454	0.0118	0.0169
0.0243	0.0003	0.0302	0.0115	0.0088
0.0320	0.0005	0.0337	0.0124	0.0120
0.0359	0.0002	0.0293	0.0093	0.0093
0.0387	0.0003	0.0375	0.0032	0.0156
0.0332	0.0008	0.0387	0.0028	0.0191
0.0480	0.0006	0.0331	0.0028	0.0176
0.0276	0.0006	0.0508	0.0034	0.0058
0.0436	0.0011	0.0698	0.0033	0.0082
0.0378	0.0004	0.0326	0.0026	0.0047
0.0268	0.0001	0.0244	0.0027	0.0216
0.0272	0.0001	0.0339	0.0021	0.0121
0.0315	0.0002	0.0215	0.0018	0.0097
0.0394	0.0002	0.0561	0.0032	0.0167
0.0403	0.0007	0.1430	0.0027	0.0097
0.0392	0.0004	0.0623	0.0021	0.0058
0.0308	--	0.1007	0.0013	0.0125
0.0326	0.0001	0.0797	0.0012	0.0174
0.0406	--	0.1504	0.0029	0.0102
0.0478	--	0.0936	0.0047	0.0221
0.0285	0.0001	0.0796	0.0029	0.0072
NPF6.3	NPF7.7(1B)	NPF5.34	NPF4.4	NPF4.2
0.0051	0.0462	0.0501	0.1048	0.0624
0.0055	0.0347	0.0372	0.0743	0.0363

0.0081	0.0317	0.0497	0.1064	0.0541
0.0137	0.0576	0.0822	0.1513	0.0994
0.0030	0.0266	0.0348	0.0243	0.0186
0.0025	0.0175	0.0275	0.0556	0.0212
0.0188	0.0077	0.1085	0.1606	0.0071
0.0218	0.0204	0.1273	0.1483	0.0093
0.0169	0.0182	0.1118	0.1460	0.0071
0.0189	0.0207	0.1420	0.0946	0.0079
0.0229	0.0221	0.1435	0.0617	0.0070
0.0173	0.0340	0.1208	0.1042	0.0061
0.0133	0.0059	0.0848	0.1209	0.0086
0.0152	0.0054	0.0735	0.1112	0.0058
0.0076	0.0029	0.0766	0.0731	0.0054
0.0144	0.0063	0.1309	0.0442	0.0053
0.0094	0.0041	0.0947	0.0352	0.0046
0.0101	--	0.1221	0.0665	0.0046
0.0049	0.0052	0.0852	0.0568	0.0061
0.0030	0.0043	0.0728	0.0330	0.0074
0.0034	0.0039	0.0586	0.0313	0.0047
0.0050	0.0064	0.0759	0.0267	0.0049
0.0028	0.0062	0.0989	0.0424	0.0064
0.0067	0.0066	0.0830	0.0326	0.0050
0.0035	0.0032	0.0617	0.0201	0.0077
0.0050	0.0037	0.0826	0.0406	0.0103
0.0060	0.0047	0.0895	0.0491	0.0066
0.0075	0.0056	0.0778	0.1056	0.0125
0.0062	0.0058	0.0667	0.0584	0.0109
0.0080	0.0040	0.0671	0.0726	0.0089
NPF7.6	NPF7.7(1B)	NPF5.5	NPF4.4	NPF4.2
0.0458	0.0335	0.0871	0.1456	0.3917
0.0256	0.0339	0.0910	0.1467	0.5370
0.0244	0.0348	0.1040	0.1430	0.2868
0.0369	0.0283	0.1071	0.1125	0.1942
0.0366	0.0358	0.1118	0.1355	0.2892
0.0320	0.0268	0.0962	0.1091	0.1940
0.0347	0.0095	0.0786	0.1001	0.3084
0.0234	0.0122	0.0810	0.1284	0.3707
0.0407	0.0120	0.0945	0.1281	0.3915
0.0356	0.0164	0.1041	0.0946	0.1722
0.0391	0.0099	0.1207	0.1061	0.1352
NPF7.6	NPF5.5	NPF5.34	NPF4.4	NPF4.2
0.0330	0.0168	0.0152	0.0331	0.0063
0.0155	0.0166	0.0056	0.0097	0.0068
0.0199	0.0125	0.0061	0.0135	0.0094
0.0208	0.0160	0.0062	0.0160	0.0067
0.0189	0.0152	0.0076	0.0131	0.0094
0.0262	0.0107	0.0038	0.0143	0.0030

NPF7.6	NPF5.5	NPF1.1	NPF5.15	NPF5.16(3B)
0.0395	0.0091	0.0012	0.0769	0.0046
0.0961	0.0159	0.0004	0.1474	0.0049
0.0350	0.0132	0.0005	0.0895	0.0040
0.0485	0.0119	0.0016	0.0718	0.0043
0.0407	0.0126	0.0016	0.1445	0.0058
0.0790	0.0102	0.0007	0.0987	0.0031
0.0627	0.0306	0.0021	0.0425	0.0055
0.0807	0.0443	0.0029	0.0586	0.0062
0.0783	0.0345	0.0026	0.0637	0.0062
0.0651	0.0305	0.0022	0.0509	0.0054
0.0567	0.0242	0.0018	0.0506	0.0054
0.0617	0.0288	0.0014	0.0564	0.0058
0.0969	0.0358	0.0086	0.0795	0.0052
0.1058	0.0426	0.0085	0.0782	0.0063
0.1207	0.0428	0.0089	0.0773	0.0054
0.0701	0.0251	0.0036	0.0770	0.0049
0.0904	0.0406	0.0056	0.0936	0.0066
0.0685	0.0360	0.0053	0.0677	0.0067
0.0560	0.0255	0.0124	0.0664	0.0117
0.0764	0.0557	0.0146	0.0965	0.0123
0.0887	0.0451	0.0182	0.1170	0.0161
0.0781	0.0314	0.0098	0.0779	0.0116
0.1127	0.0532	0.0187	0.1386	0.0145
0.0944	0.0451	0.0102	0.1250	0.0131
0.0240	0.0156	0.0079	0.0450	0.0122
0.0229	0.0149	0.0068	0.0418	0.0098
0.0243	0.0200	0.0087	0.0671	0.0115
0.0506	0.0234	0.0082	0.0624	0.0140
0.0337	0.0232	0.0105	0.0716	0.0110
0.0479	0.0278	0.0104	0.0944	0.0149

es with abnormal melting curves, and they were excluded
reatment at 14 dpa

NPF7.4(2D)	NPF5.15	NPF5.26	NPF5.16(3B)	NPF8.4
0.0020	0.0390	0.0254	0.0008	0.0676
0.0022	0.0356	0.0193	0.0018	0.0544
0.0014	0.0396	0.0246	0.0020	0.0551
0.0010	0.0351	0.0240	0.0011	0.0281
0.0015	0.0568	0.0319	0.0023	0.0485
0.0012	0.0613	0.0302	0.0033	0.0452
0.0010	0.0633	0.0194	0.0018	0.0484
0.0009	0.0405	0.0217	0.0008	0.0308
0.0029	0.0584	0.0309	0.0012	0.0494
0.0012	0.0626	0.0302	0.0019	0.0348
0.0013	0.0652	0.0391	0.0011	0.0438
0.0014	0.0560	0.0335	0.0009	0.0392
NPF8.9	NPF6.6	NPF8.19	NPF4.1	NPF8.13
0.0441	0.1319	0.1330	0.0612	0.0285
0.0306	0.0969	0.1644	0.0642	0.0208
0.0477	0.1290	0.1455	0.0836	0.0211
0.0280	0.0994	0.1435	0.0634	0.0339
0.0238	0.0906	0.0728	0.0613	0.0130
0.0339	0.1384	0.1009	0.0717	0.0268
0.0797	0.0868	0.0566	0.0375	0.0225
0.0398	0.1094	0.0475	0.0522	0.0223
0.0518	0.0790	0.0389	0.0757	0.0213
0.0278	0.0654	0.0356	0.0278	0.0262
0.0343	0.0986	0.0356	0.0360	0.0335
0.0400	0.0671	0.0260	0.0449	0.0372
0.0323	0.1929	0.0580	0.0686	0.0431
0.0300	0.1472	0.1003	0.0613	0.0359
0.0887	0.3700	0.1126	0.0558	0.0537
0.0299	0.1121	0.0491	0.0431	0.0560
0.0359	0.1885	0.0572	0.0513	0.0725
0.0260	0.1381	0.0574	0.0471	0.0479
0.0349	0.1953	0.0538	0.0722	0.0345
0.0262	0.1320	0.0594	0.0832	0.0412
0.0325	0.1482	0.0445	0.0553	0.0542
0.0419	0.2634	0.0553	0.0423	0.0641
0.0281	0.1586	0.0742	0.0534	0.0714
0.0267	0.1796	0.0516	0.0494	0.0750
0.0592	0.3536	0.0618	0.0322	0.0461
0.0692	0.3209	0.0992	0.0670	0.0686
0.0574	0.3399	0.0400	0.0595	0.0817
0.0556	0.6411	0.0838	0.0547	0.0438
0.0298	0.3439	0.0410	0.0563	0.0521
NPF8.4	NPF8.9	NPF8.24	NPF5.4	NPF5.8(5A)
0.0301	0.0154	0.0059	0.0034	0.0002
0.0205	0.0174	0.0054	0.0039	0.0001

0.0202	0.0191	0.0055	0.0053	0.0001
0.0274	0.0176	0.0073	0.0041	0.0004
0.0139	0.0201	0.0088	0.0025	0.0001
0.0159	0.0191	0.0105	0.0022	0.0001
0.0767	0.0285	0.0115	0.0248	0.0003
0.1065	0.0233	0.0099	0.0257	0.0007
0.1218	0.0182	0.0084	0.0298	0.0008
0.0897	0.0346	0.0209	0.0318	0.0004
0.1041	0.0145	0.0089	0.0271	0.0005
0.0840	0.0221	0.0149	0.0290	0.0008
0.0762	0.0271	0.0025	0.0114	0.0002
0.0547	0.0217	0.0018	0.0113	0.0001
0.0521	0.0240	0.0015	0.0087	0.0002
0.0892	0.0164	0.0059	0.0067	0.0001
0.0605	0.0182	0.0053	0.0074	0.0001
0.0421	0.0151	0.0070	0.0050	0.0002
0.0590	0.0415	0.0005	0.0198	--
0.0838	0.0310	0.0002	0.0267	--
0.1528	0.0311	0.0002	0.0347	--
0.0402	0.0253	0.0011	0.0090	--
0.0882	0.0344	0.0021	0.0171	--
0.0911	0.0287	0.0021	0.0111	--
0.1606	0.0484	0.0001	0.0308	--
0.2595	0.0634	0.0002	0.0420	--
0.3326	0.0355	0.0002	0.0387	--
0.2361	0.0533	0.0002	0.0327	--
0.2171	0.0560	0.0001	0.0378	--
0.2457	0.0322	0.0003	0.0343	--
NPF1.1	NPF5.15	NPF5.26	NPF5.16(3B)	NPF8.4
0.0002	0.0480	0.0017	0.0096	0.0365
0.0003	0.0314	0.0031	0.0113	0.0362
0.0005	0.0382	0.0021	0.0117	0.0350
0.0003	0.0841	0.0015	0.0023	0.0349
0.0004	0.0976	0.0018	0.0023	0.0371
0.0004	0.0853	0.0008	0.0024	0.0318
0.0005	0.0349	0.0024	0.0229	0.0372
0.0005	0.0389	0.0016	0.0178	0.0463
0.0006	0.1253	0.0041	0.0206	0.0601
0.0003	0.0702	0.0018	0.0096	0.0530
0.0002	0.0649	0.0023	0.0155	0.0680
NPF5.15	NPF5.16(3B)	NPF8.4	NPF2.5	NPF8.9
0.0079	0.0015	0.0180	0.0158	0.0271
0.0025	0.0010	0.0133	0.0082	0.0121
0.0046	0.0010	0.0175	0.0074	0.0131
0.0038	0.0008	0.0140	0.0101	0.0183
0.0036	0.0011	0.0134	0.0071	0.0127
0.0032	0.0002	0.0147	0.0062	0.0169

NPF8.4	NPF2.6	NPF8.9	NPF8.24	NPF5.9(1)
0.0461	0.0717	0.0069	0.0024	0.0017
0.0782	0.1645	0.0168	0.0013	0.0019
0.0412	0.0854	0.0036	0.0011	0.0012
0.0609	0.1086	0.0067	0.0025	0.0021
0.0664	0.0980	0.0033	0.0030	0.0031
0.0483	0.0874	0.0145	0.0017	0.0012
0.0659	0.1925	0.0209	0.0014	0.0040
0.1057	0.2969	0.0279	0.0016	0.0060
0.1261	0.4478	0.0176	0.0008	0.0043
0.0723	0.1808	0.0190	0.0010	0.0041
0.0712	0.2163	0.0167	0.0014	0.0028
0.0812	0.2733	0.0167	0.0011	0.0030
0.1262	0.4206	0.0344	0.0016	0.0257
0.1290	0.5271	0.0429	0.0018	0.0256
0.1188	0.4821	0.0576	0.0022	0.0278
0.0982	0.3616	0.0286	0.0014	0.0200
0.0932	0.4901	0.0506	0.0018	0.0254
0.0812	0.3607	0.0242	0.0014	0.0248
0.0916	0.2288	0.0315	0.0015	0.0149
0.1653	0.5023	0.0477	0.0009	0.0332
0.2208	0.6422	0.0536	0.0007	0.0445
0.1442	0.3800	0.0505	0.0013	0.0198
0.2608	0.7508	0.0641	0.0044	0.0427
0.2053	0.7102	0.0581	0.0013	0.0329
0.0869	0.1500	0.0176	0.0011	0.0110
0.0871	0.1024	0.0143	0.0006	0.0084
0.1225	0.1471	0.0179	0.0007	0.0117
0.1886	0.3051	0.0356	0.0007	0.0140
0.1651	0.1916	0.0265	0.0017	0.0159
0.2190	0.1821	0.0298	0.0013	0.0167

NPF2.6	NPF8.9	NPF8.15	NPF6.4	NPF5.9(1)
0.1227	0.0632	0.0023	0.1362	0.0924
0.1502	0.0678	0.0019	0.1678	0.1642
0.1104	0.0229	0.0014	0.2799	0.0680
0.1609	0.0323	0.0036	--	0.0322
0.4033	0.0214	0.0021	0.1419	0.0757
0.1906	0.0155	0.0022	0.2072	0.0944
0.1409	0.0572	0.0047	0.2293	0.0667
0.0821	0.0294	0.0036	0.0758	0.0568
0.2113	0.0351	0.0048	0.1127	0.0572
0.3626	0.0460	0.0015	0.1041	0.0486
0.3850	0.0381	0.0018	0.0865	0.0576
0.2918	0.0389	0.0022	0.0425	0.0227
NPF8.28	NPF3.1	NPF8.16	NPF5.20	NPF2.15
0.0032	0.0573	0.0113	0.0016	0.0109
0.0054	0.0702	0.0123	0.0015	0.0176
0.0072	0.0953	0.0109	0.0017	0.0143
0.0053	0.0872	0.0108	0.0024	0.0105
0.0032	0.0662	0.0106	0.0014	0.0098
0.0071	0.0839	0.0154	0.0025	0.0076
0.0023	0.1068	0.0056	0.0014	0.0254
0.0039	0.1069	0.0085	0.0022	0.0215
0.0046	0.0920	0.0029	0.0017	0.0372
0.0050	0.0966	0.0081	0.0043	0.0133
0.0052	0.0525	0.0063	0.0063	0.0141
0.0062	0.0904	0.0064	0.0038	0.0171
0.0045	0.2215	0.0014	0.0098	0.0210
0.0027	0.1985	0.0046	0.0123	0.0287
0.0023	0.1815	0.0042	0.0088	0.0300
0.0038	0.1876	0.0050	0.0218	0.0159
0.0035	0.2608	0.0099	0.0332	0.0154
0.0041	0.1611	0.0180	0.0187	0.0155
0.0027	0.3257	0.0023	0.0064	0.0393
0.0024	0.1753	0.0031	0.0079	0.0409
0.0020	0.2062	0.0034	0.0068	0.0361
0.0034	0.1731	0.0081	0.0132	0.0488
0.0050	0.1115	0.0102	0.0219	0.0449
0.0041	0.2061	0.0083	0.0144	0.0340
0.0012	0.2515	0.0083	0.0059	0.0128
0.0008	0.1878	0.0049	0.0057	0.0114
0.0018	0.1511	0.0080	0.0159	0.0178
0.0031	0.2618	0.0218	0.0136	0.0093
0.0009	0.1788	0.0096	0.0099	0.0074
NPF6.6	NPF2.11(7D)	NPF8.28	NPF2.10	NPF3.1
0.0446	0.0367	0.0056	0.0009	0.0073
0.0307	0.0276	0.0051	0.0010	0.0128

0.0347	0.0295	0.0059	0.0005	0.0070
0.0337	0.0231	0.0082	0.0005	0.0085
0.0348	0.0231	0.0036	0.0009	0.0091
0.0211	0.0292	0.0049	0.0007	0.0135
0.0835	0.1595	0.0018	0.0005	0.0541
0.1055	0.1502	0.0034	0.0025	0.0608
0.0745	0.2055	0.0046	0.0025	0.0473
0.0887	0.1331	0.0026	0.0015	0.0376
0.1195	0.1506	0.0044	0.0011	0.0430
0.0844	0.1698	0.0046	0.0038	0.0351
0.0860	0.1050	0.0019	0.0022	0.0573
0.0532	0.0803	0.0015	0.0012	0.0395
0.0368	0.0771	0.0018	0.0008	0.0417
0.0514	0.1897	0.0021	0.0033	0.0410
0.0531	0.1278	0.0015	0.0020	0.0401
0.0373	0.1078	0.0017	0.0008	0.0449
0.0928	0.0570	0.0007	0.0008	0.1435
0.0884	0.0516	0.0003	0.0009	0.1626
0.0537	0.0447	0.0005	0.0009	0.1343
0.0696	0.0748	0.0008	0.0014	0.1813
0.1526	0.0878	0.0005	0.0030	0.1319
0.0892	0.1026	0.0009	0.0032	0.1309
0.0693	--	0.0005	0.0007	0.3075
0.1241	0.0333	0.0003	0.0014	0.3260
0.0601	0.0238	0.0005	0.0004	0.3421
0.0956	--	0.0003	0.0010	0.2867
0.1509	0.0435	0.0003	0.0023	0.1904
0.0918	0.0521	0.0003	0.0022	0.2640
NPF8.9	NPF8.24	NPF5.9(1)	NPF5.8(5A)	NPF6.6
0.0089	0.0056	0.0975	0.0009	0.0149
0.0124	0.0061	0.1781	0.0011	0.0124
0.0092	0.0060	0.1071	0.0014	0.0097
0.0107	0.0065	0.0856	0.0020	0.0119
0.0079	0.0057	0.1381	0.0021	0.0128
0.0138	0.0077	0.0854	0.0018	0.0099
0.0146	0.0039	0.0710	0.0002	0.0097
0.0180	0.0046	0.0617	0.0003	0.0098
0.0126	0.0032	0.0582	0.0003	0.0071
0.0124	0.0030	0.0508	0.0006	0.0085
0.0152	0.0038	0.0679	0.0008	0.0057
NPF8.24	NPF5.4	NPF6.6	NPF8.19	NPF7.1
0.0116	0.0015	0.0088	0.0445	--
0.0044	0.0005	0.0050	0.0339	0.0070
0.0043	0.0006	0.0039	0.0227	0.0086
0.0079	0.0008	0.0059	0.0276	0.0079
0.0060	0.0006	0.0053	0.0398	0.0112
0.0049	0.0005	0.0031	0.0069	0.0012

NPF5.8(5A)	NPF3.1	NPF8.16	NPF7.10	NPF4.1
0.0031	0.0020	0.0029	0.0012	0.0221
0.0038	0.0043	0.0025	0.0010	0.0613
0.0054	0.0015	0.0008	0.0004	0.0280
0.0052	0.0026	0.0030	0.0020	0.0231
0.0035	0.0031	0.0025	0.0009	0.0327
0.0032	0.0030	0.0011	0.0009	0.0410
0.0030	0.0036	0.0023	0.0795	0.0619
0.0030	0.0044	0.0055	0.1543	0.0830
0.0045	0.0035	0.0061	0.0704	0.0888
0.0026	0.0049	0.0017	0.0755	0.0796
0.0029	0.0036	0.0044	0.0500	0.0454
0.0032	0.0021	0.0035	0.0517	0.0492
0.0074	0.0054	0.0060	0.3286	0.2082
0.0046	0.0063	0.0040	0.5399	0.1865
0.0055	0.0151	0.0055	0.5101	0.2158
0.0021	0.0042	0.0041	0.3039	0.1282
0.0038	0.0057	0.0041	0.4056	0.1460
0.0050	0.0057	0.0033	0.3297	0.1782
0.0022	0.0193	0.0050	0.1126	0.0975
0.0048	0.0362	0.0138	0.2355	0.1353
0.0063	0.0445	0.0270	0.2023	0.1637
0.0026	0.0332	0.0087	0.1884	0.1281
0.0048	0.0412	0.0246	0.2484	0.1902
0.0045	0.0373	0.0222	0.2909	0.1699
0.0020	0.0171	0.0121	0.0471	0.0434
0.0012	0.0129	0.0088	0.0226	0.0389
0.0024	0.0145	0.0061	0.0301	0.0435
0.0013	0.0271	0.0118	0.0644	0.0712
0.0017	0.0300	0.0117	0.0568	0.0936
0.0021	0.0197	0.0060	0.0303	0.0800

NPF6.6	NPF7.1	NPF7.3	NPF4.1	NPF2.12
0.0094	0.1136	0.0278	0.0769	0.0304
0.0115	0.0694	0.0384	0.1058	0.0266
0.0116	0.0267	0.0062	0.0641	0.0354
0.0126	0.0564	0.0244	0.0322	0.0448
0.0144	0.0204	0.0073	0.1083	0.0517
0.0145	0.0223	0.0038	0.0904	0.0513
0.0125	0.0566	0.0541	0.0844	0.0290
0.0070	0.0498	0.0408	0.0512	0.0237
0.0028	0.0969	0.0652	0.0589	0.0198
0.0137	0.0546	0.0339	0.0586	0.0312
0.0101	0.0874	0.0416	0.0594	0.0385
0.0086	0.0820	0.0466	0.0504	0.0373

NPF8.18	NPF8.17	NPF5.20	NPF2.15
0.0353	0.0022	0.0079	0.0062
0.0396	0.0017	0.0048	0.0063

0.0400	0.0027	0.0066	0.0074	
0.0554	0.0011	0.0145	0.0069	
0.0318	0.0038	0.0099	0.0031	
0.0234	0.0035	0.0070	0.0038	
0.0600	0.0004	0.0266	0.0013	
0.0751	0.0003	0.0246	0.0012	
0.0706	0.0007	0.0198	0.0020	
0.0675	0.0009	0.0521	0.0013	
0.0412	0.0005	0.0396	0.0012	
0.0444	0.0005	0.0365	0.0016	
0.0194	0.0002	0.0219	0.0001	
0.0145	0.0002	0.0139	0.0001	
0.0139	0.0001	0.0152	0.0001	
0.0167	0.0006	0.0512	0.0001	
0.0213	0.0005	0.0537	0.0001	
0.0237	0.0002	0.0321	0.0001	
0.0088	0.0001	0.0161	--	
0.0055	0.0002	0.0113	--	
0.0078	0.0000	0.0086	--	
0.0077	0.0006	0.0406	--	
0.0080	0.0003	0.0344	--	
0.0071	0.0006	0.0385	--	
0.0062	0.0000	0.0047	--	
0.0059	0.0001	0.0073	--	
0.0078	--	0.0043	--	
0.0067	0.0000	0.0089	--	
0.0054	0.0001	0.0099	--	
0.0088	--	0.0086	--	
NPF8.19	NPF7.1	NPF2.11(7D)	NPF8.28	NPF2.10
0.0499	0.0340	0.0074	0.0046	0.0005
0.0757	0.0273	0.0145	0.0053	0.0007
0.0524	0.0200	0.0075	0.0064	0.0004
0.0359	0.0213	0.0108	0.0065	0.0005
0.0382	0.0165	0.0085	0.0057	0.0006
0.0331	0.0225	0.0083	0.0061	0.0005
0.0382	0.0179	0.0206	0.0029	0.0009
0.0271	0.0248	0.0147	0.0028	0.0012
0.0467	0.0692	0.0227	0.0029	0.0017
0.0308	0.0334	0.0151	0.0029	0.0011
0.0287	0.0412	0.0156	0.0033	0.0016
NPF8.28	NPF3.1	NPF5.20	NPF2.12	
0.0052	0.0244	0.0025	0.0321	
0.0021	0.0138	0.0016	0.0347	
0.0021	0.0127	0.0012	0.0202	
0.0029	0.0196	0.0033	0.0254	
0.0027	0.0167	0.0030	0.0252	
0.0016	0.0106	0.0013	0.0170	

NPF8.28	NPF2.10	NPF3.1	NPF8.16	NPF8.17
0.0047	0.0169	0.0365	0.0148	0.0036
0.0024	0.0112	0.0267	0.0074	0.0036
0.0045	0.0036	0.0189	0.0075	0.0027
0.0052	0.0063	0.0534	0.0202	0.0009
0.0036	0.0028	0.0251	0.0112	0.0026
0.0042	0.0025	0.0452	0.0151	0.0031
0.0045	0.0106	0.0488	0.0130	0.0010
0.0042	0.0153	0.0553	0.0094	0.0002
0.0040	0.0165	0.0310	0.0137	0.0009
0.0030	--	0.1027	0.0105	0.0009
0.0039	0.0124	0.0494	0.0162	0.0010
0.0032	0.0117	0.0486	0.0195	0.0003

NPF3.1	NPF8.16	NPF8.17	NPF5.20	NPF2.15
0.0124	0.0149	0.0058	0.0128	0.0049
0.0105	0.0131	0.0192	0.0112	0.0039
0.0140	0.0053	0.0059	0.0154	0.0057
0.0101	0.0134	0.0072	0.0192	0.0027
0.0162	0.0074	0.0166	0.0200	0.0039
0.0118	0.0054	0.0070	0.0171	0.0038
0.0157	0.0028	0.0096	0.0130	0.0032
0.0109	0.0042	0.0021	0.0117	0.0012
0.0123	0.0169	0.0173	0.0116	0.0014
0.0160	0.0058	0.0096	0.0203	0.0007
0.0199	0.0097	0.0098	0.0238	0.0009

NPF5.20	NPF2.15
0.0461	0.0647
0.0507	0.0523
0.0437	0.0713
0.0315	0.1303
0.0396	0.1365
0.0311	0.1795
0.0543	0.0327
0.0333	0.0303
0.0333	0.0128
0.0493	0.0798
0.0477	0.0993
0.0380	0.0841

NPF4.6
0.0003
0.0006
0.0004
0.0003
0.0004
0.0005
0.0005
0.0003
0.0003
0.0004
0.0004