Short Communication



## Genetics of quantitative characters in six-rowed Barley over environments

## V. K. Bhatnagar, S. N. Sharma and E. V. D. Sastry

Deptt. of Genetics and Plant Breeding, Agricultural Research Station, RAU, Durgapura, Jaipur 302 018

(Received: January 29 1997; Revised: August 2001; Accepted: September 2001)

The experimental material consisted of parents, F1 and  $F_2$  generations of a 10  $\times$  10 half diallel set. The material was laid out in RBD with 3 replications in three environments namely, early, normal and late sowings referred to as E1, E2 and E3 respectively. The ten parents included were BG 105, BG 25, BH 28, BL 2, DL 100, DL 165, DL 88, K 125, RD 103 and RD 728. Each plot consisted of a single 4m row in parental and F1 generations, and 4 rows of 4m each in F2 generation with a row to row spacing of 30 cm and plant to plant spacing of 10 cm. Ten competitive random plants in parents and F1s and 25 plants in each of F<sub>2</sub> progenies, were selected for recording observations on nine characters under each environment. The mean of each plot was used for statistical analysis. The genetical analysis for each character was conducted following Hayman [1].

Pooled ANOVA over the environments revealed highly significant differences amongst progenies for all the traits studied. So was true of progenies  $\times$ environmental interactions. However, the environment mean squares were non- significant for harvest index in both the generations. Significant deviation of 'b' from zero and the non-significant departure of regression coefficient from unity for maturity, plant height and number of grains per ear in both the generations indicated that the assumptions of diallel analysis were fulfilled for these traits.

The additive component (D) (Table 1) was highly significant for all the characters in both the generations. The two measures of dominance  $H_1$  and  $H_2$  were found to be highly significant for all the traits in both the generations. These results indicated that nonadditive components for almost all the characters in both the generations, were higher than the additive components as per the earlier findings also [2-4].

The estimates of 'F' value were found to be positive and highly significant for ear length, number of grains per ear and harvest index in both the generations; plant height in  $F_1$  and tiller number, 1000 grain weight and grain yield in  $F_2$ , suggesting a higher proportion of dominant alleles controlling these characters. However, positive but non-significant 'F' for the remaining traits in both the generations, gave some indication of the excess of dominant alleles in the parental lines. Different characters showed variable trends in both the generations for  $h^2$ , the net dominance effect. It was observed to be highly significant and positive for days to heading, plant height, ear length, number of grains per ear and grain yield in  $F_1$  and in  $F_2$  for harvest index, 1000 grain weight, number of grains per ear, ear length and plant height.

The proportion  $(H_1/D)^{1/2}$  was found to be near unity for days to maturity, plant height and ear length in F<sub>1</sub>, indicating complete dominance while for rest of the characters in F<sub>1</sub> and for all traits in F<sub>2</sub>, the value was above one, suggesting either over dominance or epistasis in the expression of characters. The ratio H<sub>2</sub>/4H<sub>1</sub> was lower than 0.25 for all the characters in both F<sub>1</sub> and F<sub>2</sub> generations, indicating asymmetrical distribution of genes with positive and negative effects. In view of above findings, biparental mating and/or diallel selective mating would hold promise for genetic improvement of six rowed barley.

## References

- 1. **Hayman B. I.** 1954. The theory and analysis of diallel crosses. Genetics, **39**: 105-114.
- 2. **Tripathi I. D. and Singh M.** 1983. Triple test cross analysis in three barley populations under saline-alkali soil conditions. J. Agril. Sci., **101**: 317-321.
- 3. **Huang Z. R.** 1984. Genes for dwarfness in barley and interrelationship of plant height with yield and yield components. Indian J. Agric. Sci., **59**: 27-31.
- Sethi S. K., Paroda R. S. and Singh D. 1986. Genetics of harvest index and its components in barley. Crop Improv., 13: 206-208.

.

Genetic	Gene-	Days to heading		Plant height			Tiller number			Ear length			
compo-	rations	E1	E <sub>2</sub>	E <sub>3</sub>	E1	E2	Eз	E1	E2	E <sub>3</sub>	E1	E <sub>2</sub>	Eз
nents		40 7		**	007.0	007 0**	140.0		10.0				
D	F1	18.7 ± 4.9	21.5 <sup>°°</sup> ± 3.3	7.5 <sup>°°</sup> ±	267.3 <sup>°°</sup> ± 13.9	227.6 ± 32.6	140.8 ± 23.4	10.2 ±	16.8	3.2 <sup>"</sup> ±	2.2	3.4"±	1.8 <sup>°</sup> ±
	F۱	± 4.9 19.1	± 3.3 21.4	1.8 7.5 <sup>°°</sup> ±	± 13.9 267.0	± 32.6 226.6	± 23.4 140.0	10. <u>1</u> 10.55	± 5.3 16.9	0.8 3.3 <sup>**</sup> ±	±0.2 3.4 ±	0.3 2.2 <sup>**</sup> ±	0.2 1.8 <sup>**</sup> ±
	• •	± 3.4	± 5.5	3.4	± 15.3	± 37.6	± 9.2	± 1.7	± 2.5	2.3	0.2	2.2 ⊥ 0.1	0.3
H <sub>1</sub>	F1	46.9	38.9**	20.7	215.1	359.6	225.7	77.5 <sup>**</sup> r	58.3	15.2	2.9**±	3.4 ±	2.9 <sup>°</sup> ±
		± 10.5	± 7.1	± 3.9	± 29.6	± 69.4	± 49.7	± 21.5	± 11.2	± 1.9	0.5	0.6	0.3
	F2	144.2	294.3	182.4	662.8	1231.1	642.2	92.8	109.3	70.2	11.04	4.92	8.1 <sup>™</sup> ±
	_	± 28.8	± 46.8	± 292.	± 130.7	± 319.9	± 78.1	± 14.9	± 21.6	± 20.0	± 1.9	± 1.2	2.1
H <sub>2</sub>	F1	31.0	27.2**	17.9	103.8	253.6	199.9	68.1	43.2	13.4	1.8 <sup>**</sup> ±	2.3 <sup>**</sup> ±	2.1 <sup>"</sup> ±
	F <sub>2</sub>	± 9 104.7	± 6.0 160.5	± 3.3 100.4	± 25.1 442.8	± 59.0 963.3	± 42.2 530.3	± 18.3 72.5	± 9.5 64.9	± 1.6 52.13	0.3 6.2 <sup>**</sup> ±	0.5 2.95	0.3 6.0 <sup>**</sup> ±
	12	± 24.4	± 39.7	± 24.7		± 271.8	± 66.4	± 12.6	± 18.3	± 17.0	1.0	± 0.9	0.0 <u>1</u>
F	F1	1.16	12.1 ±	4.4 ±	287.5	214.7	25.7 ±	11.8 ±	19.4 ±	0.98 ±	2.81	3.2 ±	1.8 <sup>**</sup> ±
		± 1.5	7.6	4.2	± 32.1	± 75.2	53.9	23.5	12.1	2.1	± 0.5	0.6	0.4
	F2	6.6 ±	80.7	12.7 ±	358.6	165.0	38.9 ±	21.4 ±	50.1 <sup>**</sup>	2.3 ±	6.4 <sup>**</sup> ±	2.43	2.8 <sup>*</sup> ±
		15.6	± 25.3	15.8		± 173.3	42.3	8.0	± 11.7	10.8	1.0	± 0.6	1.2
E	F1	1.2 ±	0.6 ±	0.4 ±	2.1 ±	2.2 ±	1.0 ±	0.9 ±	0.7 ±	0.4 ±	0.1 ±	0.1 ±	0.1 ±
	5.	1.5	1.0	0.5	4.2 2.4 ±	0.8 3.1 ±	7.0 1.8 ±	3.0	1.8	1.3	0.0	0.0 7.2 <sup>°°</sup> ±	0.0
	F2	0.8 ± 1.0	0.7 ± 1.6	0.4 ± 1.0	2.4 ± 4.5	3. i ± 11.3	1.8 ±	0.6 ± 0.5	0.6 ± 0.7	0.4 ± 0.7	0.0 ± 0.0	7.2 ± 0.0	0.0 ± 0.0
h²	F۱	20.8	53.4	17.4	54.9	13.2 ±	215.5	12.7 ±	0.3 ±	0.9 ±	3.5 <sup>°°</sup> ±	5.3 <sup>°°</sup> ±	3.6 <sup>**</sup> ±
		± 6.0	± 4.0	± 2.2	± 16.9	39.4	± 28.3	12.2	6.3	11.1	0.3	0.3	0.2
	F2	0.0 ±	4.6 ±	1.2 ±	18.5 ±	122.0	107.4**	0.8 ±	10.0	0.2 ±	0.8 <sup>**</sup> ±	1.1 <sup>"</sup> ±	0.12 ±
		4.0	6.6	4.4	18.6	± 45.4	± 11.1	2.1	± 3.0	2.8	0.2	0.2	0.3
(H <sub>1</sub> /D) <sup>1/2</sup>	F1	1.5	1.3	1.6	0.8	1.3	1.3	2.7	1.8	2.1	1.1	1.0	1.3
H <sub>2</sub> /4H <sub>1</sub>	F2 F1	2.7 0.2	3.7 0.1	4.9 0.2	1.6 0.2	2.3 0.1	2.1 0.2	2.9 0.2	2.5 0.2	4.5 0.2	1.0 0.2	1.5 0.2	2.0 0.2
1 12/41 1	F2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Constin Cons		Number of grains/ear		1000 grain weight			Harvest index			Groin viold			
	Gene- rations	E1	E <sub>2</sub>	E3	<u>100</u> E1	<u>u grain we</u> E <sub>2</sub>	E <sub>3</sub>	E1	E <sub>2</sub>	E3	E1	<u>Fain yield</u> E2	E <sub>3</sub>
nents	allone			_0		-	· ·		-	•		-	-
D	F1		00.4		44.4	50.1	16.7	00.0	97.6	45.9	94.8	97.6	45.9
0	• •	34.9	69.1	43.5	41.4			89.0					
0		± 7.7	± 15.1	± 11.02	± 5.0	± 9.6	± 2.6	± 17.5	± 21.0	± 7.7	± 31.3	± 21.0	± 7.7
U	F <sub>2</sub>	± 7.7 35.4	± 15.1 68.4	± 11.02 436.8	± 5.0 41.9	± 9.6 501.3	± 2.6 16.7	± 17.5 88.25	± 21.0 90.2	± 7.7 125.0	85.1	970.7	± 7.7 460.1
_	F2	± 7.7 35.4 ± 3.6	± 15.1 68.4 ± 8.5	± 11.02 436.8 ± 6.6	± 5.0 41.9 ± 3.2	± 9.6 501.3 ± 3.8	± 2.6 16.7 ± 5.0	± 17.5 88.25 ± 18.9	± 21.0 90.2 ± 14.6	$\pm 7.7$ 125.0 $\pm 20.3$	85.1 <sup>°°</sup> ± 19.3	970.7 ± 15.0	± 7.7 460.1 ± 9.2
H <sub>1</sub>		± 7.7 35.4 ± 3.6 149.1	± 15.1 68.4	± 11.02 436.8	± 5.0 41.9 ± 3.2 49.1	± 9.6 501.3 ± 3.8 84.1	± 2.6 16.7 ± 5.0 33.4	± 17.5 88.25 ± 18.9 274.2	± 21.0 90.2	± 7.7 125.0	85.1	970.7 ± 15.0 297.5	± 7.7 460.1 ± 9.2 72.9
_	F2	± 7.7 35.4 ± 3.6	± 15.1 68.4 ± 8.5 187.4	± 11.02 436.8 ± 6.6 130.9	± 5.0 41.9 ± 3.2 49.1 ± 10.7 156.7	± 9.6 501.3 ± 3.8 84.1 ± 20.4 179.1	± 2.6 16.7 ± 5.0	± 17.5 88.25 ± 18.9 274.2 ± 37.5 1111	± 21.0 90.2 ± 14.6 297.5 ± 44.8 ,559.7	± 7.7 125.0 ± 20.3 72.9 ± 16.5 1097	85.1 <sup>**</sup> ± 19.3 516.0	970.7 ± 15.0	± 7.7 460.1 ± 9.2
H1	F2 F1 F2	± 7.7 35.4 ± 3.6 149.1 ± 16.3 338.2 ± 31.0	± 15.1 68.4 ± 8.5 187.4 ± 32.3 371.8 ± 72.8	$\begin{array}{c} \pm \ 11.02\\ 436.8\\ \pm \ 6.6\\ 130.9\\ \pm \ 23.4\\ 305.7\\ \pm \ 56.4\end{array}$	± 5.0 41.9 ± 3.2 49.1 ± 10.7 156.7 ± 27.3	± 9.6 501.3 ± 3.8 84.1 ± 20.4 179.1 ± 32.7	± 2.6 16.7 ± 5.0 33.4 ± 5.5 198.3 ± 43.3	$\begin{array}{c} \pm & 17.5\\ 88.25\\ \pm & 18.9\\ 274.2\\ \pm & 37.5\\ 1111\\ \pm & 161.6\end{array}$	± 21.0 90.2 ± 14.6 297.5 ± 44.8 ,559.7 ± 119.8	± 7.7 125.0 ± 20.3 72.9 ± 16.5 1097 ± 173.3	85.1 ± 19.3 516.0 ± 66.7 877.1 ± 164.8	970.7 ± 15.0 297.5 ± 44.8 587.2 ± 128.3	$\pm$ 7.7 460.1 $\pm$ 9.2 72.9 $\pm$ 16.5 256.5 $\pm$ 79.1
_	F <sub>2</sub> F1	± 7.7 35.4 ± 3.6 149.1 ± 16.3 338.2 ± 31.0 222.7	± 15.1 68.4 ± 8.5 187.4 ± 32.3 371.8 ± 72.8 229.3	$\begin{array}{c} \pm \ 11.02 \\ 436.8 \\ \pm \ 6.6 \\ 130.9 \\ \pm \ 23.4 \\ 305.7 \\ \pm \ 56.4 \\ 254.5 \end{array}$	± 5.0 41.9 ± 3.2 49.1 ± 10.7 156.7 ± 27.3 88.6	± 9.6 501.3 ± 3.8 84.1 ± 20.4 179.1 ± 32.7 107.7	$\pm 2.6$ 16.7 $\pm 5.0$ 33.4 $\pm 5.5$ 198.3 $\pm 43.3$ 158.2	$\pm 17.5$ 88.25 $\pm 18.9$ 274.2 $\pm 37.5$ 1111 $\pm 161.6$ 820.2	$\pm 21.0$ 90.2 $\pm 14.6$ 297.5 $\pm 44.8$ ,559.7 $\pm 119.8$ 503.3	± 7.7 125.0 ± 20.3 72.9 ± 16.5 1097 ± 173.3 797.5	85.1 ± 19.3 516.0 ± 66.7 877.1 ± 164.8 635.7	970.7 ± 15.0 297.5 ± 44.8 587.2 ± 128.3 408.6	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\end{array}$
H1	F2 F1 F2 F1	$\pm$ 7.7 35.4 $\pm$ 3.6 149.1 $\pm$ 16.3 338.2 $\pm$ 31.0 222.7 $\pm$ 26.4	$\pm$ 15.1 68.4 $\pm$ 8.5 187.4 $\pm$ 32.3 371.8 $\pm$ 72.8 229.3 $\pm$ 61.9	$\begin{array}{c} \pm \ 11.02 \\ 436.8 \\ \pm \ 6.6 \\ 130.9 \\ \pm \ 23.4 \\ 305.7 \\ \pm \ 56.4 \\ 254.5 \\ \pm \ 47.9 \end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\end{array}$	$\pm 2.6$ 16.7 $\pm 5.0$ 33.4 $\pm 5.5$ 198.3 $\pm 43.3$ 158.2 $\pm 36.7$	$\pm$ 17.5 88.25 $\pm$ 18.9 274.2 $\pm$ 37.5 1111 $\pm$ 161.6 820.2 $\pm$ 137.3	$\pm 21.0$ 90.2 $\pm 14.6$ 297.5 $\pm 44.8$ ,559.7 $\pm 119.8$ 503.3 $\pm 101.8$	± 7.7 125.0 ± 20.3 72.9 ± 16.5 1097 ± 173.3 797.5 ± 147.3	85.1 ± 19.3 516.0 ± 66.7 877.1 ± 164.8 635.7 ± 140.1	970.7 ± 15.0 297.5 ± 44.8 587.2 ± 128.3 408.6 ± 109.0	$\pm$ 7.7 460.1 $\pm$ 9.2 72.9 $\pm$ 16.5 256.5 $\pm$ 79.1 236.5 $\pm$ 67.2
H1	F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\end{array}$	$\pm$ 15.1 68.4 $\pm$ 8.5 187.4 $\pm$ 32.3 371.8 $\pm$ 72.8 229.3 $\pm$ 61.9 138.8	$\begin{array}{c} \pm \ 11.02\\ 436.8\\ \pm \ 6.6\\ 130.9\\ \pm \ 23.4\\ 305.7\\ \pm \ 56.4\\ 254.5\\ \pm \ 47.9\\ 111.8\end{array}$	$\pm$ 5.0 41.9 $\pm$ 3.2 49.1 $\pm$ 10.7 156.7 $\pm$ 27.3 88.6 $\pm$ 23.1 33.6	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\end{array}$	$\pm 2.6$ 16.7 $\pm 5.0$ 33.4 $\pm 5.5$ 198.3 $\pm 43.3$ 158.2 $\pm 36.7$ 23.2	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \end{array}$	$\pm 21.0$ 90.2 $\pm 14.6$ 297.5 $\pm 44.8$ ,559.7 $\pm 119.8$ 503.3 $\pm 101.8$ 211.4	$\begin{array}{c} \pm \ 7.7\\ 125.0\\ \pm \ 20.3\\ 72.9\\ \pm \ 16.5\\ 1097\\ \pm \ 173.3\\ 797.5\\ \pm \ 147.3\\ 64.8\end{array}$	85.1 ± 19.3 516.0 ± 66.7 877.1 ± 164.8 635.7 ± 140.1 418.6	970.7 <sup>°</sup> ± 15.0 297.5 <sup>°</sup> ± 44.8 587.2 <sup>°</sup> ± 128.3 408.6 <sup>°</sup> ± 109.0 211.4 <sup>°</sup>	$\pm$ 7.7 460.1 $\pm$ 9.2 72.9 $\pm$ 16.5 256.5 $\pm$ 79.1 236.5 $\pm$ 67.2 64.8
H <sub>1</sub>	F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\end{array}$	$\pm$ 15.1 68.4 $\pm$ 8.5 187.4 $\pm$ 32.3 371.8 $\pm$ 72.8 229.3 $\pm$ 61.9	$\begin{array}{c} \pm \ 11.02\\ 436.8\\ \pm \ 6.6\\ 130.9\\ \pm \ 23.4\\ 305.7\\ \pm \ 56.4\\ 254.5\\ \pm \ 47.9\\ 111.8\\ \pm \ 19.9\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\end{array}$	$\pm$ 17.5 88.25 $\pm$ 18.9 274.2 $\pm$ 37.5 1111 $\pm$ 161.6 820.2 $\pm$ 137.3	$\begin{array}{r} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ \end{array}$	$\begin{array}{c} \pm \ 7.7\\ 125.0\\ \pm \ 20.3\\ 72.9\\ \pm \ 16.5\\ 1097\\ \pm \ 173.3\\ 797.5\\ \pm \ 147.3\\ 64.8\end{array}$	85.1 ± 19.3 516.0 ± 66.7 877.1 ± 164.8 635.7 ± 140.1	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0	$\pm$ 7.7 460.1 $\pm$ 9.2 72.9 $\pm$ 16.5 256.5 $\pm$ 79.1 236.5 $\pm$ 67.2
H1	F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ \end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\end{array}$	$\begin{array}{c} \pm \ 11.02\\ 436.8\\ \pm \ 6.6\\ 130.9\\ \pm \ 23.4\\ 305.7\\ \pm \ 56.4\\ 254.5\\ \pm \ 47.9\\ 111.8\end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \\ 33.6 \\ \pm 9.1 \\ 35.2 \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm 6.0\\ \end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ \end{array}$	$\pm 21.0$ 90.2 $\pm 14.6$ 297.5 $\pm 44.8$ ,559.7 $\pm 119.8$ 503.3 $\pm 101.8$ 211.4	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \end{array}$	$\begin{array}{r} 85.1 \\ \pm 19.3 \\ 516.0 \\ \pm 66.7 \\ 877.1 \\ \pm 164.8 \\ 635.7 \\ \pm 140.1 \\ 418.6 \\ \pm 56.7 \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5	$\pm$ 7.7 460.1 $\pm$ 9.2 72.9 $\pm$ 16.5 256.5 $\pm$ 79.1 236.5 $\pm$ 67.2 64.8 $\pm$ 14.0
H <sub>1</sub>	F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \\ 33.6 \\ \pm 9.1 \\ 35.2 \\ \pm 11.6 \\ 97.8 \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\ \pm \\ 22.1\\ 80.2\\ \end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm 48.5\\ 91\\ \pm \end{array}$	$\begin{array}{c} \pm \ 7.7\\ 125.0\\ \pm \ 20.3\\ 72.9\\ \pm \ 16.5\\ 1097\\ \pm \ 173.3\\ 797.5\\ \pm \ 147.3\\ 64.8\\ \pm \ 14.1\\ 0.0\ \pm\\ 17.9\\ 286.9\end{array}$	$\begin{array}{c} 85.1 \\ \pm 19.3 \\ 516.0 \\ \pm 66.7 \\ 877.1 \\ \pm 164.8 \\ 635.7 \\ \pm 140.1 \\ 418.6 \\ \pm 56.7 \\ 119.0 \\ \pm 72.3 \\ 257.0 \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\\ \pm 25.4\\ 70.2\\ \pm 30.5\end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \\ 33.6 \\ \pm 9.1 \\ 35.2 \\ \pm 11.6 \\ 97.8 \\ \pm 14.7 \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm 48.5\\ 91\\ \pm \\ 64.9\end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ \end{array}$	$\begin{array}{c} 85.1 \\ \pm 19.3 \\ 516.0 \\ \pm 66.7 \\ 877.1 \\ \pm 164.8 \\ 635.7 \\ \pm 140.1 \\ 418.6 \\ \pm 56.7 \\ 119.0 \\ \pm 72.3 \\ 257.0 \\ \pm 89.3 \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\end{array}$
H <sub>1</sub>	F2 F1 F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\ \pm \end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm \end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \\ 33.6 \\ \pm 9.1 \\ 35.2 \\ \pm 11.6 \\ 97.8 \\ \pm 14.7 \\ 1.3 \\ \pm \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\\ 1.1\\ \pm \end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \end{array}$	$\begin{array}{c} 85.1 \\ \pm 19.3 \\ 516.0 \\ \pm 66.7 \\ 877.1 \\ \pm 164.8 \\ 635.7 \\ \pm 140.1 \\ 418.6 \\ \pm 56.7 \\ 119.0 \\ \pm 72.3 \\ 257.0 \\ \pm 89.3 \\ 2.4 \\ \pm \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm 4.5\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\ \pm\\ 1.5\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \\ 17.7\\ 1.1\\ \pm \\ 2.8\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.8\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm 5.3\\ \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm 4.5\\ 2.4\\ \pm \end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\\ 1.8\ \pm\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\\ \pm 1.5\\ 0.7\\ \pm\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.0\\ \pm \end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \\ 1.8 \\ \pm \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm 4.5\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\ \pm\\ 1.5\\ 0.7\ \pm\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \\ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.8\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm 5.3\\ \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ \end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \\ 1.1\\ 239.9\\ \pm \ 9.2\\ \end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm 4.5\\ 2.4\\ \pm 2.6\\ 34.6\\ \pm 18.3\\ \end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\\ 1.8\ \pm\\ 1.9\\ 216.8\\ \pm 13.3\\ \end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\\ \pm 1.5\\ 0.7\\ \pm 0.9\\ 27.5\\ \pm 6.1\\ \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \\ 11.6\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \\ 1.5\\ 0.1\\ \pm \\ 33.2\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \\ 5.7\\ 3.1\\ \pm \\ 21.2\end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \\ 4.2\\ 6.6\\ \pm \\ 25.5\end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \\ 1.8 \\ \pm \\ 6.1 \\ 5.3 \\ \pm \\ 9.4 \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \\ 5.8\\ 893.4\\ \pm 37.9\end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$ 4.5 6.6 $\pm$ 25.5	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.8\\ 5.3\\ \pm \\ 9.4\\ \end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \\ 1.1\\ 239.9\\ \pm \ 9.2\\ 239.9\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm \\ 4.5\\ 2.4\\ \pm \\ 2.6\\ 34.6\\ \pm \\ 18.3\\ 34.6\\ \pm \end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\\ 1.8\ \pm\\ 1.9\\ 216.8\\ \pm 13.3\\ 216.9\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\ \pm\\ 1.5\\ 0.7\ \pm\\ 0.9\\ 27.5\\ \pm 6.1\\ 27.5\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \\ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \\ 11.6\\ 0.2\\ \pm \end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \\ 1.5\\ 0.1\\ \pm \\ 33.2\\ 0.1\\ \pm \end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \\ 5.7\\ 3.1\\ \pm \\ 21.2\\ 3.0\\ \pm \end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \\ 4.2\\ 6.6\\ \pm \\ 25.5\\ 6.6\\ \pm \end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \\ 1.8 \\ \pm \\ 6.1 \\ 5.3 \\ \pm \\ 9.4 \\ 5.3 \\ \pm \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \\ 5.8\\ 893.4\\ \pm 37.9\\ 893.4\end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$ 4.5 6.6 $\pm$ 25.5 6.6 $\pm$	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.8\\ 5.3\\ \pm \\ 9.4\\ 5.3\\ \pm \end{array}$
H1 H2 F E	F2 F1 F2 F1 F2 F1 F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \\ 1.1\\ 239.9\\ \pm \ 9.2\\ 239.9\\ \pm \ 9.2\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm \\ 4.5\\ 2.4\\ \pm \\ 2.6\\ 34.6\\ \pm \\ 18.3\\ 34.6\\ \pm \\ 18.3\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1 \pm \\25.4\\ 70.2\\ \pm 30.5\\ 2.0 \pm \\3.3\\ 1.8 \pm \\1.9\\ 216.8\\ \pm 13.3\\ 216.9\\ \pm 13.3\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\\ \pm 1.5\\ 0.7\\ \pm 0.9\\ 27.5\\ \pm 6.1\\ 27.5\\ \pm 6.1\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \\ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \\ 11.6\\ 0.2\\ \pm \\ 11.6\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \\ 1.5\\ 0.1\\ \pm \\ 33.2\\ 0.1\\ \pm \\ 3.2\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \\ 5.7\\ 3.1\\ \pm \\ 21.2\\ 3.0\\ \pm \\ 21.2\end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \\ 4.2\\ 6.6\\ \pm \\ 25.5\\ 6.6\\ \pm \\ 25.6\end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \ 93.9 \\ 0.8 \\ \pm \\ 2.3 \\ 1.8 \\ \pm \\ 6.1 \\ 5.3 \\ \pm \\ 9.4 \\ 5.3 \\ \pm \\ 9.4 \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \\ 5.8\\ 893.4\\ \pm 37.9\\ 893.4\\ \pm 37.9\end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$ 4.5 6.6 $\pm$ 25.5 6.6 $\pm$ 25.5	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.8\\ 5.3\\ \pm \\ 9.4\\ 5.3\\ \pm \\ 9.4\end{array}$
H1 H2 F	F2 F1 F2 F1 F2 F1 F2 F1 F2 F1 F2 F1	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \\ 1.1\\ 239.9\\ \pm \ 9.2\\ 239.9\\ \pm \ 9.2\\ 2.1\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm \\ 4.5\\ 2.4\\ \pm \\ 2.6\\ 34.6\\ \pm \\ 18.3\\ 34.6\\ \pm \\ 18.3\\ 1.6\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1\ \pm\\ 25.4\\ 70.2\\ \pm 30.5\\ 2.0\ \pm\\ 3.3\\ 1.8\ \pm\\ 1.9\\ 216.8\\ \pm 13.3\\ 216.9\\ \pm 13.3\\ 1.7\end{array}$	$\begin{array}{c} \pm 5.0\\ 41.9\\ \pm 3.2\\ 49.1\\ \pm 10.7\\ 156.7\\ \pm 27.3\\ 88.6\\ \pm 23.1\\ 33.6\\ \pm 9.1\\ 35.2\\ \pm 11.6\\ 97.8\\ \pm 14.7\\ 1.3\\ \pm 1.5\\ 0.7\\ \pm 6.1\\ 27.5\\ \pm 6.1\\ 1.0\end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \\ 11.6\\ 0.2\\ \pm \\ 11.6\\ 1.2\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm 3.2\\ 0.6\\ \pm 33.2\\ 0.1\\ \pm 33.2\\ 0.1\\ \pm 3.2\\ 1.4\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \\ 5.7\\ 3.1\\ \pm \\ 21.2\\ 3.0\\ \pm \\ 21.2\\ 1.7\end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \\ 4.2\\ 6.6\\ \pm \\ 25.5\\ 6.6\\ \pm \\ 25.6\\ 1.7\end{array}$	$\begin{array}{c} \pm 7.7\\ 125.0\\ \pm 20.3\\ 72.9\\ \pm 16.5\\ 1097\\ \pm 173.3\\ 797.5\\ \pm 147.3\\ 64.8\\ \pm 14.1\\ 0.0 \pm \\ 17.9\\ 286.9\\ \pm 93.9\\ 0.8 \pm \\ 2.3\\ 1.8 \pm \\ 6.1\\ 5.3 \pm \\ 9.4\\ 5.3 \pm \\ 9.4\\ 1.2\end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \\ 5.8\\ 893.4\\ \pm 37.9\\ 893.4\\ \pm 37.9\\ 2.4\end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$ 4.5 6.6 $\pm$ 25.5 6.6 $\pm$ 25.5 1.7	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 9.4\\ 1.3\\ \end{array}$
H1 H2 F E	F2 F1 F2 F1 F2 F1 F2 F1 F2 F1 F2	$\begin{array}{c} \pm \ 7.7\\ 35.4\\ \pm \ 3.6\\ 149.1\\ \pm \ 16.3\\ 338.2\\ \pm \ 31.0\\ 222.7\\ \pm \ 26.4\\ 97.2\\ \pm \ 13.9\\ 61.7\\ \pm \ 17.7\\ 97.8\\ \pm \ 16.8\\ 1.6\\ \pm \\ 2.3\\ 1.4\\ \pm \\ 1.1\\ 239.9\\ \pm \ 9.2\\ 239.9\\ \pm \ 9.2\end{array}$	$\begin{array}{c} \pm 15.1\\ 68.4\\ \pm 8.5\\ 187.4\\ \pm 32.3\\ 371.8\\ \pm 72.8\\ 229.3\\ \pm 61.9\\ 138.8\\ \pm 27.5\\ 96.4\\ \pm 35.0\\ 152.9\\ \pm 39.4\\ 1.6\\ \pm \\ 4.5\\ 2.4\\ \pm \\ 2.6\\ 34.6\\ \pm \\ 18.3\\ 34.6\\ \pm \\ 18.3\end{array}$	$\begin{array}{c} \pm 11.02\\ 436.8\\ \pm 6.6\\ 130.9\\ \pm 23.4\\ 305.7\\ \pm 56.4\\ 254.5\\ \pm 47.9\\ 111.8\\ \pm 19.9\\ 23.1 \pm \\25.4\\ 70.2\\ \pm 30.5\\ 2.0 \pm \\3.3\\ 1.8 \pm \\1.9\\ 216.8\\ \pm 13.3\\ 216.9\\ \pm 13.3\end{array}$	$\begin{array}{c} \pm 5.0 \\ 41.9 \\ \pm 3.2 \\ 49.1 \\ \pm 10.7 \\ 156.7 \\ \pm 27.3 \\ 88.6 \\ \pm 23.1 \\ 33.6 \\ \pm 9.1 \\ 35.2 \\ \pm 11.6 \\ 97.8 \\ \pm 14.7 \\ 1.3 \\ \pm 1.5 \\ 0.7 \\ \pm 6.1 \\ 27.5 \\ \pm 6.1 \\ 1.0 \\ 1.9 \end{array}$	$\begin{array}{c} \pm \ 9.6\\ 501.3\\ \pm \ 3.8\\ 84.1\\ \pm \ 20.4\\ 179.1\\ \pm \ 32.7\\ 107.7\\ \pm \ 27.8\\ 58.5\\ \pm \ 17.3\\ 7.8\\ \pm \\ 22.1\\ 80.2\\ \pm \ 17.7\\ 1.1\\ \pm \\ 2.8\\ 1.0\\ \pm \\ 1.1\\ 0.2\\ \pm \\ 11.6\\ 0.2\\ \pm \\ 11.6\\ 0.2\\ \pm \\ 11.6\\ 1.2\\ 1.9\end{array}$	$\begin{array}{c} \pm 2.6\\ 16.7\\ \pm 5.0\\ 33.4\\ \pm 5.5\\ 198.3\\ \pm 43.3\\ 158.2\\ \pm 36.7\\ 23.2\\ \pm 4.7\\ 0.9\\ \pm \\ 6.0\\ 0.6\\ \pm \\ 23.4\\ 0.6\\ \pm \\ 0.6\\ \pm \\ 0.8\\ 0.6\\ \pm \\ 1.5\\ 0.1\\ \pm \\ 33.2\\ 0.1\\ \pm \\ 3.2\end{array}$	$\begin{array}{c} \pm 17.5\\ 88.25\\ \pm 18.9\\ 274.2\\ \pm 37.5\\ 1111\\ \pm 161.6\\ 820.2\\ \pm 137.3\\ 202.0\\ \pm 31.7\\ 128.6\\ \pm 40.5\\ 293.9^{**}\\ \pm 87.5\\ 1.8\\ \pm \\ 5.3\\ 2.5\\ \pm \\ 5.7\\ 3.1\\ \pm \\ 21.2\\ 3.0\\ \pm \\ 21.2\end{array}$	$\begin{array}{c} \pm 21.0\\ 90.2\\ \pm 14.6\\ 297.5\\ \pm 44.8\\ ,559.7\\ \pm 119.8\\ 503.3\\ \pm 101.8\\ 211.4\\ \pm 36.0\\ 38.7\\ \pm \\ 48.5\\ 91\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 64.9\\ 0.9\\ \pm \\ 6.3\\ 2.1\\ \pm \\ 4.2\\ 6.6\\ \pm \\ 25.5\\ 6.6\\ \pm \\ 25.6\end{array}$	$\begin{array}{c} \pm \ 7.7 \\ 125.0 \\ \pm \ 20.3 \\ 72.9 \\ \pm \ 16.5 \\ 1097 \\ \pm \ 173.3 \\ 797.5 \\ \pm \ 147.3 \\ 64.8 \\ \pm \ 14.1 \\ 0.0 \\ \pm \\ 17.9 \\ 286.9 \\ \pm \\ 93.9 \\ 0.8 \\ \pm \\ 2.3 \\ 1.8 \\ \pm \\ 6.1 \\ 5.3 \\ \pm \\ 9.4 \\ 5.3 \\ \pm \\ 9.4 \\ 1.2 \\ 2.9 \end{array}$	$\begin{array}{c} 85.1\\ \pm 19.3\\ 516.0\\ \pm 66.7\\ 877.1\\ \pm 164.8\\ 635.7\\ \pm 140.1\\ 418.6\\ \pm 56.7\\ 119.0\\ \pm 72.3\\ 257.0\\ \pm 89.3\\ 2.4\\ \pm 9.5\\ 2.2\\ \pm \\ 5.8\\ 893.4\\ \pm 37.9\\ 893.4\\ \pm 37.9\end{array}$	970.7 $\pm$ 15.0 297.5 $\pm$ 44.8 587.2 $\pm$ 128.3 408.6 $\pm$ 109.0 211.4 $\pm$ 36.0 38.7 $\pm$ 48.5 202.4 $\pm$ 69.5 0.9 $\pm$ 6.3 1.5 $\pm$ 4.5 6.6 $\pm$ 25.5 6.6 $\pm$ 25.5	$\begin{array}{c} \pm \ 7.7\\ 460.1\\ \pm \ 9.2\\ 72.9\\ \pm \ 16.5\\ 256.5\\ \pm \ 79.1\\ 236.5\\ \pm \ 67.2\\ 64.8\\ \pm \ 14.0\\ 0.0\\ \pm \\ 17.9\\ 29.7\\ \pm \\ 42.8\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.3\\ 0.8\\ \pm \\ 2.8\\ 5.3\\ \pm \\ 9.4\\ 5.3\\ \pm \\ 9.4\end{array}$

Table 1. Estimates of genetic components of variation for yield and its components over three environments

\* Significant at p=0.05 and \*\* significant at p=0.01