$HN.2$

$2.HS.2$ $\leq 4.HS.2$	3078000	$1a^{\pm} + 3344a^{\pm} + 8910a^{\pm} + 9405a^{\pm} + 16929a^{\pm} +$ $214016a^{\pm} + 267520a^{\pm} + 365750a^{\pm} + 653125a^{\pm}$	18

Character Numbers: [1, 2, 6, 7, 9, 10, 11, 12, 13, 14, 18, 1 9, 20, 21, 24, 25, 29, 30]

	S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8	S_9	S_{10}	S_{11}	S_{12}	S_{13}	S_{14}	S_{15}	S_{16}	S_{17}	S_{18}
χ_1	1	1	1408	1408	2200	2200	5775	5775	35200	35200	123200	123200	277200	277200	354816	354816	739200	739200
χ_2	1	−1	−1408	1408	2200	−2200	−5775	5775	35200	−35200	−123200	123200	277200	−277200	354816	−354816	−739200	739200
χ_3	1	1	208	208	−50	−50	525	525	2200	2200	−2800	−2800	−6300	−6300	2016	2016	4200	4200
χ_4	1	−1	−208	208	−50	50	−525	525	2200	−2200	2800	−2800	−6300	6300	2016	−2016	−4200	4200
χ_5	1	1	−112	−112	300	300	75	75	1000	1000	−2200	−2200	3600	3600	−864	−864	−1800	−1800
χ_6	1	−1	112	−112	300	−300	−75	75	1000	−1000	2200	−2200	3600	−3600	−864	864	1800	−1800
χ_7	1	1	208	208	100	100	−525	−525	1000	1000	1400	1400	0	0	2016	2016	−4200	−4200
χ_8	1	−1	−208	208	100	−100	525	−525	1000	−1000	−1400	1400	0	0	2016	−2016	4200	−4200
χ_9	1	1	128	128	200	200	375	375	0	0	1600	1600	0	0	−2304	−2304	0	0
χ_{10}	1	−1	−128	128	200	−200	−375	375	0	0	−1600	1600	0	0	−2304	2304	0	0
χ_{11}	1	1	−47	−47	−50	−50	0	0	250	250	350	350	0	0	−504	−504	0	0
χ_{12}	1	−1	47	−47	−50	50	0	0	250	−250	−350	350	0	0	−504	504	0	0
χ_{13}	1	1	28	28	−50	−50	75	75	−50	−50	−100	−100	450	450	396	396	−750	−750
χ_{14}	1	−1	−28	28	−50	50	−75	75	−50	50	100	−100	450	−450	396	−396	750	−750
χ_{15}	1	1	−32	−32	40	40	15	15	−80	−80	80	80	−360	−360	576	576	−240	−240
χ_{16}	1	−1	32	−32	40	−40	−15	15	−80	80	−80	80	−360	360	576	−576	240	−240
χ_{17}	1	1	16	16	4	4	−45	−45	−56	−56	−136	−136	0	0	−288	−288	504	504
χ_{18}	1	−1	−16	16	4	−4	45	−45	−56	56	136	−136	0	0	−288	288	−504	504

Ramanujan Graphs: [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 6, 7, 10, 11, 14, 16, 17], [2, 3, 6, 7, 11, 14, 16, 17], [2, 3, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 6, 10, 11, 14, 16, 17], [2, 3, 6, 10, 14, 16, 17], [2, 3, 6, 14, 16, 17], [2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 7, 10, 11, 14, 16, 17], [2, 3, 7, 10, 11, 14, 17], [2, 3, 7, 11, 14, 16, 17], [2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 3, 10, 11, 14, 16, 17], [2, 3, 10, 14, 16, 17], [2, 3, 14, 16, 17], [2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 6, 7, 10, 11, 14, 16, 17], [2, 6, 7, 11, 14, 16, 17], [2, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 6, 10, 11, 14, 16, 17], [2, 6, 10, 14, 16, 17], [2, 6, 14, 16, 17], [2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 7, 10, 11, 14, 16, 17], [2, 7, 11, 14, 16, 17], [2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [2, 10, 11, 14, 16, 17], [2, 10, 14, 16, 17], [2, 14, 16, 17], [3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 6, 7, 10, 11, 14, 16, 17], [3, 6, 7, 11, 14, 16, 17], [3, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 6, 10, 11, 14, 16, 17], [3, 6, 10, 14, 16, 17], [3, 6, 14, 16, 17], [3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 7, 10, 11, 14, 16, 17], [3, 7, 10, 11, 14, 17], [3, 7, 11, 14, 16, 17], [3, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [3, 10, 11, 14, 16, 17], [3, 10, 14, 16, 17], [3, 14, 16, 17], [4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 5, 8, 9, 12, 13, 15, 18], [4, 5, 8, 12, 13, 15, 18], [4, 5, 9, 12, 13, 15, 18], [4, 5, 9, 13, 15, 18], [4, 5, 13, 15, 18], [4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 8, 9, 12, 13, 15, 18], [4, 8, 9, 12, 13, 18], [4, 8, 12, 13, 15, 18], [4, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [4, 9, 12, 13, 15, 18], [4, 9, 13, 15, 18], [4, 13, 15, 18], [5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [5, 8, 9, 12, 13, 15, 18], [5, 8, 12, 13, 15, 18], [5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [5, 9, 12, 13, 15, 18], [5, 9, 13, 15, 18], [5, 13, 15, 18], [6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [6, 7, 10, 11, 14, 16, 17], [6, 7, 11, 14, 16, 17], [6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [6, 10, 11, 14, 16, 17], [6, 10, 14, 16, 17], [6, 14, 16, 17], [7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [7, 10, 11, 14, 16, 17], [7, 11, 14, 16, 17], [8, 9, 12, 13, 15, 18], [8, 12, 13, 15, 18], [9, 10, 11, 12, 13, 14, 15, 16, 17, 18], [9, 12, 13, 15, 18], [9, 13, 15, 18], [10, 11, 14, 16, 17], [10, 14, 16, 17], [13, 15, 18], [14, 16, 17]