#### Collections of Hilbert Series Data

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# $1 \quad \underline{N=2}$

#### 1.1 E=3

Table 1: Quivers with 2 Vertices and 3 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 1     |

#### 1.2 E=4

Table 2: Quivers with 2 Vertices and 4 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 16    |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 10    |

#### 1.3 E=5

Table 3: Quivers with 2 Vertices and 5 Edges

| Dimension | Degree | Hilbert Series  | Count |
|-----------|--------|---|-------|
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$       | 36    |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$            | 123   |
| 0         | 1      | $\left(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T + \right)$ | 782   |
|           |        | $1)/(-T+1)^8$   |       |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$       | 86    |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$                | 13    |

Table 4: Quivers with 2 Vertices and 6 Edges

| Dimension              | Degree | Hilbert Series   | Count              |
|------------------------|--------|--|--------------------|
| 1                      | 3      | $(-2T^{16} + 29T^{15} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} -$   | 281                |
|                        |        | $7007T^{10} + 7865T^9 - 6435T^8 + 3575T^7 - 1001T^6 - 273T^5 +$  |                    |
|                        |        | $455T^4 - 245T^3 + 75T^2 - 13T + 1)/(-T + 1)^{16}$   |                    |
| 1                      | 2      | $(-T^{16} + 14T^{15} - 90T^{14} + 350T^{13} - 910T^{12} + 1638T^{11} -$  | 564                |
|                        |        | $2002T^{10} + 1430T^9 - 1430T^7 + 2002T^6 - 1638T^5 + 910T^4 -$  |                    |
|                        |        | $350T^3 + 90T^2 - 14T + 1)/(-T + 1)^{16}$  |                    |
| 3                      | 6      | $(-T^{15} + 9T^{14} - 27T^{13} - 13T^{12} + 351T^{11} - 1287T^{10} + 2717T^9 -$  | 31                 |
|                        |        | $3861T^8 + 3861T^7 - 2717T^6 + 1287T^5 - 351T^4 + 13T^3 + 27T^2 -$   |                    |
|                        |        | $9T+1)/(-T+1)^{16}$  |                    |
| 1                      | 4      | $\left(-3T^{16}+44T^{15}-300T^{14}+1260T^{13}-3640T^{12}+7644T^{11}-\right.$   | 115                |
|                        |        | $12012T^{10} + 14300T^9 - 12870T^8 + 8580T^7 - 4004T^6 + 1092T^5 -$  |                    |
|                        |        | $140T^3 + 60T^2 - 12T + 1)/(-T + 1)^{16}$  |                    |
| 1                      | 1      | $(-T^{15} + 15T^{14} - 105T^{13} + 455T^{12} - 1365T^{11} + 3003T^{10} -$  | 272                |
|                        |        | $5005T^9 + 6435T^8 - 6435T^7 + 5005T^6 - 3003T^5 + 1365T^4 -$  |                    |
|                        |        | $455T^3 + 105T^2 - 15T + 1)/(-T + 1)^{16}$   |                    |
| 2                      | 1      | $ (T^{14} - 14T^{13} + 91T^{12} - 364T^{11} + 1001T^{10} - 2002T^9 + 3003T^8 -$  | 64                 |
|                        |        | $3432T^7 + 3003T^6 - 2002T^5 + 1001T^4 - 364T^3 + 91T^2 - 14T +$   |                    |
|                        |        | $1)/(-T+1)^{16}$   |                    |
| 2                      | 2      | $ (T^{15} - 13T^{14} + 77T^{13} - 273T^{12} + 637T^{11} - 1001T^{10} + 1001T^{9} -$  | 62                 |
|                        |        | $429T^8 - 429T^7 + 1001T^6 - 1001T^5 + 637T^4 - 273T^3 + 77T^2 -$  |                    |
|                        |        | $13T+1)/(-T+1)^{16}$   |                    |
| 1                      | 5      | $\left(-4T^{16} + 59T^{15} - 405T^{14} + 1715T^{13} - 5005T^{12} + 10647T^{11} - 405T^{12} + 100000000000000000000000000000000000$ | 23                 |
|                        |        | $17017T^{10} + 20735T^9 - 19305T^8 + 13585T^7 - 7007T^6 +$   |                    |
|                        |        | $2457T^5 - 455T^4 - 35T^3 + 45T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 3                      | 4      | $\left(-3T^{14} + 38T^{13} - 221T^{12} + 780T^{11} - 1859T^{10} + 3146T^9 - \right)$   | 1                  |
|                        |        | $3861T^8 + 3432T^7 - 2145T^6 + 858T^5 - 143T^4 - 52T^3 + 39T^2 -$  |                    |
|                        |        | $10T+1)/(-T+1)^{16}$   |                    |
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|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 1         | 6      | $(-5T^{16} + 74T^{15} - 510T^{14} + 2170T^{13} - 6370T^{12} + 13650T^{11} -$ | 4       |
|           |        | $22022T^{10} + 27170T^9 - 25740T^8 + 18590T^7 - 10010T^6 +$                  |         |
|           |        | $3822T^5 - 910T^4 + 70T^3 + 30T^2 - 10T + 1)/(-T + 1)^{16}$                  |         |
| 3         | 10     | $(-2T^{15} + 19T^{14} - 66T^{13} + 39T^{12} + 494T^{11} - 2145T^{10} +$      | 4       |
|           |        | $4862T^9 - 7293T^8 + 7722T^7 - 5863T^6 + 3146T^5 - 1131T^4 +$                |         |
|           |        | $234T^3 - 11T^2 - 6T + 1)/(-T + 1)^{16}$                                     |         |
| 3         | 6      | $(-5T^{14} + 64T^{13} - 377T^{12} + 1352T^{11} - 3289T^{10} + 5720T^9 -$     | 3       |
|           |        | $7293T^8 + 6864T^7 - 4719T^6 + 2288T^5 - 715T^4 + 104T^3 +$                  |         |
|           |        | $13T^2 - 8T + 1)/(-T + 1)^{16}$  |         |
| 0         | 1      | $(T^{16} - 16T^{15} + 120T^{14} - 560T^{13} + 1820T^{12} - 4368T^{11} +$     | 1074    |
|           |        | $8008T^{10} - 11440T^9 + 12870T^8 - 11440T^7 + 8008T^6 - 4368T^5 +$          |         |
|           |        | $1820T^4 - 560T^3 + 120T^2 - 16T + 1)/(-T + 1)^{16}$                         |         |
| 2         | 4      | $(3T^{15} - 41T^{14} + 259T^{13} - 1001T^{12} + 2639T^{11} - 5005T^{10} +$   | 2       |
|           |        | $7007T^9 - 7293T^8 + 5577T^7 - 3003T^6 + 1001T^5 - 91T^4 -$                  |         |
|           |        | $91T^3 + 49T^2 - 11T + 1)/(-T + 1)^{16}$                                     |         |

# $2 \quad \underline{N=3}$

#### 2.1 E=3

Table 5: Quivers with 3 Vertices and 3 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

### 2.2 E=4

Table 6: Quivers with 3 Vertices and 4 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 4     |

#### 2.3 E=5

Table 7: Quivers with 3 Vertices and 5 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 1     |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 6     |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 20    |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 62    |

Table 8: Quivers with 3 Vertices and 6 Edges

| Dimension | Degree | Hilbert Series  | Count |
|-----------|--------|---|-------|
| 0         | 1      | $\left(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T + \right)$ | 2239  |
|           |        | $1)/(-T+1)^8$   |       |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$       | 828   |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$            | 323   |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$                | 22    |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$       | 58    |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                                 | 44    |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                          | 16    |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                                 | 5     |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                       | 1     |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$                | 12    |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                       | 4     |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                         | 72    |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$          | 34    |
| 1         | 2      | $(-T^8 + 6T^7 - 14T^6 + 14T^5 - 14T^3 + 14T^2 - 6T + 1)/(-T + 1)^8$       | 16    |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                                 | 8     |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                       | 5     |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$                                | 2     |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$                         | 2     |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 2     |

### $2.5 \quad E=7$

Table 9: Quivers with 3 Vertices and 7 Edges

| Dimension | Degree                               | Hilbert Series  | Count |  |  |
|-----------|--------------------------------------|---|-------|--|--|
| 3         | 4                                    | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)$ | 23    |  |  |
|           |                                      | $1)^{10}$   |       |  |  |
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|--------------------|--|--------|-----------|
| Count              | Hilbert Series   | Degree | Dimension |
| 79                 | $(T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T +$                | 2      | 3         |
|                    | $1)/(-T+1)^{10}$   |        |           |
| 1                  | $(T^8-2T^7-8T^6+34T^5-50T^4+34T^3-8T^2-2T+1)/(-T+1)$                               | 6      | 4         |
|                    | $(1)^{10}$   |        |           |
| 57                 | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^{10}$                             | 2      | 3         |
| 3045               | $(T^{16} - 16T^{15} + 120T^{14} - 560T^{13} + 1820T^{12} - 4368T^{11} +$           | 1      | 0         |
|                    | $ 8008T^{10} - 11440T^9 + 12870T^8 - 11440T^7 + 8008T^6 - 4368T^5 +$               |        |           |
|                    | $1820T^4 - 560T^3 + 120T^2 - 16T + 1)/(-T + 1)^{16}$                               |        |           |
| 630                | $(-T^{16} + 14T^{15} - 90T^{14} + 350T^{13} - 910T^{12} + 1638T^{11} -$            | 2      | 1         |
|                    | $2002T^{10} + 1430T^9 - 1430T^7 + 2002T^6 - 1638T^5 + 910T^4 -$                    |        |           |
|                    | $350T^3 + 90T^2 - 14T + 1)/(-T + 1)^{16}$  |        |           |
| 528                | $(-T^{15} + 15T^{14} - 105T^{13} + 455T^{12} - 1365T^{11} + 3003T^{10} -$          | 1      | 1         |
|                    | $5005T^9 + 6435T^8 - 6435T^7 + 5005T^6 - 3003T^5 + 1365T^4 -$                      |        |           |
|                    | $455T^3 + 105T^2 - 15T + 1)/(-T + 1)^{16}$   |        |           |
| 9                  | $(-T^{15} + 9T^{14} - 27T^{13} - 13T^{12} + 351T^{11} - 1287T^{10} + 2717T^9 -$    | 6      | 3         |
|                    | $3861T^8 + 3861T^7 - 2717T^6 + 1287T^5 - 351T^4 + 13T^3 + 27T^2 -$                 |        |           |
|                    | $9T+1)/(-T+1)^{16}$  |        |           |
| 50                 | $\left(-3 T^{16}+44 T^{15}-300 T^{14}+1260 T^{13}-3640 T^{12}+7644 T^{11}-\right.$ | 4      | 1         |
|                    | $12012T^{10} + 14300T^9 - 12870T^8 + 8580T^7 - 4004T^6 + 1092T^5 -$                |        |           |
|                    | $140T^3 + 60T^2 - 12T + 1)/(-T + 1)^{16}$  |        |           |
| 156                | $(-2T^{16} + 29T^{15} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} -$         | 3      | 1         |
|                    | $7007T^{10} + 7865T^9 - 6435T^8 + 3575T^7 - 1001T^6 - 273T^5 +$                    |        |           |
|                    | $455T^4 - 245T^3 + 75T^2 - 13T + 1)/(-T + 1)^{16}$                                 |        |           |
| 43                 | $(T^{14} - 14T^{13} + 91T^{12} - 364T^{11} + 1001T^{10} - 2002T^9 + 3003T^8 -$     | 1      | 2         |
|                    | $3432T^7 + 3003T^6 - 2002T^5 + 1001T^4 - 364T^3 + 91T^2 - 14T +$                   |        |           |
|                    | $1)/(-T+1)^{16}$   |        |           |
| 5                  | $(-5T^{14} + 64T^{13} - 377T^{12} + 1352T^{11} - 3289T^{10} + 5720T^9 -$           | 6      | 3         |
|                    | $7293T^8 + 6864T^7 - 4719T^6 + 2288T^5 - 715T^4 + 104T^3 +$                        |        |           |
|                    | $13T^2 - 8T + 1)/(-T + 1)^{16}$  |        |           |
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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 2      | $(T^{15} - 13T^{14} + 77T^{13} - 273T^{12} + 637T^{11} - 1001T^{10} + 1001T^{9} -$   | 283                |
|           |        | $429T^8 - 429T^7 + 1001T^6 - 1001T^5 + 637T^4 - 273T^3 + 77T^2 -$  |                    |
|           |        | $13T+1)/(-T+1)^{16}$   |                    |
| 2         | 2      | $(-T^{16} + 16T^{15} - 118T^{14} + 532T^{13} - 1638T^{12} + 3640T^{11} -$  | 91                 |
|           |        | $6006T^{10} + 7436T^9 - 6864T^8 + 4576T^7 - 2002T^6 + 364T^5 +$  |                    |
|           |        | $182T^4 - 168T^3 + 62T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 2      | $\left(-2T^{16} + 31T^{15} - 223T^{14} + 987T^{13} - 3003T^{12} + 6643T^{11} - 987T^{12} + 6643T^{12} + 6643T^{12$ | 25                 |
|           |        | $11011T^{10} + 13871T^9 - 13299T^8 + 9581T^7 - 5005T^6 + 1729T^5 -$  |                    |
|           |        | $273T^4 - 63T^3 + 47T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 3      | $\left(-T^{16} + 17T^{15} - 132T^{14} + 623T^{13} - 2002T^{12} + 4641T^{11} - 12002T^{12} + 4641T^{12} - 12002T^{12} + 40002T^{12} + 40002T^{$ | 24                 |
|           |        | $8008T^{10} + 10439T^9 - 10296T^8 + 7579T^7 - 4004T^6 + 1365T^5 -$   |                    |
|           |        | $182T^4 - 77T^3 + 48T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 3      | $\left(2T^{15} - 27T^{14} + 168T^{13} - 637T^{12} + 1638T^{11} - 3003T^{10} + \right)$   | 67                 |
|           |        | $4004T^9 - 3861T^8 + 2574T^7 - 1001T^6 + 273T^4 - 182T^3 +$  |                    |
|           |        | $63T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 1      | $\left(-T^{16} + 15T^{15} - 104T^{14} + 441T^{13} - 1274T^{12} + 2639T^{11} - 1274T^{11} - 1274T^{1$ | 14                 |
|           |        | $4004T^{10} + 4433T^9 - 3432T^8 + 1573T^7 - 637T^5 + 546T^4 -$   |                    |
|           |        | $259T^3 + 76T^2 - 13T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 4      | $\left(3T^{15} - 41T^{14} + 259T^{13} - 1001T^{12} + 2639T^{11} - 5005T^{10} + \right)$  | 5                  |
|           |        | $7007T^9 - 7293T^8 + 5577T^7 - 3003T^6 + 1001T^5 - 91T^4 -$  |                    |
|           |        | $91T^3 + 49T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 5      | $\left(-4T^{16} + 59T^{15} - 405T^{14} + 1715T^{13} - 5005T^{12} + 10647T^{11} - 405T^{12} + 100000000000000000000000000000000000$   | 9                  |
|           |        | $17017T^{10} + 20735T^9 - 19305T^8 + 13585T^7 - 7007T^6 +$   |                    |
|           |        | $2457T^5 - 455T^4 - 35T^3 + 45T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 8      | $(-T^{15} + 7T^{14} - T^{13} - 169T^{12} + 923T^{11} - 2717T^{10} + 5291T^9 -$   | 3                  |
|           |        | $7293T^8 + 7293T^7 - 5291T^6 + 2717T^5 - 923T^4 + 169T^3 + T^2 - 7293T^4 + 169T^3 + T^2 - 7295T^4 + 169T^3 + 720T^4 + 169T^4 + 720T^4 + 720$     |                    |
|           |        | $(7T+1)/(-T+1)^{16}$   |                    |
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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 2      | $(-3T^{16} + 46T^{15} - 328T^{14} + 1442T^{13} - 4368T^{12} + 9646T^{11} -$  | 1                  |
|           |        | $16016T^{10} + 20306T^9 - 19734T^8 + 14586T^7 - 8008T^6 +$   |                    |
|           |        | $3094T^5 - 728T^4 + 42T^3 + 32T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 546                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 2      | $(T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 -$  | 75                 |
|           |        | $(7T+1)/(-T+1)^{10}$   |                    |
| 3         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$  | 36                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 1      | $\left(T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^5 - 21T^4 - 7T^5 - 21T^5 -$ | 5                  |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$  | 2                  |
| 1         | 1      | $\left(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 - 126T^4 - 84T^3 + 36T^2 - 126T^4 - 84T^3 + 36T^2 - 126T^4 - 12$ | 132                |
|           |        | $9T+1)/(-T+1)^{10}$  |                    |
| 0         | 1      | $\left(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 - 120T^4 - 120T^6 - 1$ | 163                |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{10}$  |                    |
| 2         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$   | 4                  |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 4      | $\left(-T^{16} + 18T^{15} - 146T^{14} + 714T^{13} - 2366T^{12} + 5642T^{11} - 146T^{14} + 714T^{14} + 714T^{14} - 146T^{14} + 714T^{14} + 714T^{1$ | 6                  |
|           |        | $10010T^{10} + 13442T^9 - 13728T^8 + 10582T^7 - 6006T^6 +$   |                    |
|           |        | $2366T^5 - 546T^4 + 14T^3 + 34T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
| 4         | 6      | $\left(-T^{14} + 18T^{13} - 137T^{12} + 604T^{11} - 1749T^{10} + 3542T^9 - \right)$  | 1                  |
|           |        | $5181T^8 + 5544T^7 - 4323T^6 + 2398T^5 - 891T^4 + 188T^3 -$  |                    |
|           |        | $7T^2 - 6T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 1      | $\left(-2T^{16} + 30T^{15} - 209T^{14} + 896T^{13} - 2639T^{12} + 5642T^{11} - \right)$  | 1                  |
|           |        | $9009T^{10} + 10868T^9 - 9867T^8 + 6578T^7 - 3003T^6 + 728T^5 +$   |                    |
|           |        | $91T^4 - 154T^3 + 61T^2 - 12T + 1)/(-T + 1)^{16}$  |                    |
| 0         | 1      | $\left[ (T^{12} - 12T^{11} + 66T^{10} - 220T^9 + 495T^8 - 792T^7 + 924T^6 - 190T^7 + 19$ | 157                |
|           |        | $792T^5 + 495T^4 - 220T^3 + 66T^2 - 12T + 1)/(-T + 1)^{12}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 3      | $(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 -$   | 22                 |
|           |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^{12}$  |                    |
| 1         | 2      | $(-T^{12} + 10T^{11} - 44T^{10} + 110T^9 - 165T^8 + 132T^7 - 132T^5 +$   | 261                |
|           |        | $165T^4 - 110T^3 + 44T^2 - 10T + 1)/(-T + 1)^{12}$   |                    |
| 1         | 1      | $(-T^{11} + 11T^{10} - 55T^9 + 165T^8 - 330T^7 + 462T^6 - 462T^5 +$  | 798                |
|           |        | $330T^4 - 165T^3 + 55T^2 - 11T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 3      | $(-T^{12} + 13T^{11} - 74T^{10} + 245T^9 - 525T^8 + 762T^7 - 756T^6 +$   | 4                  |
|           |        | $498T^5 - 195T^4 + 25T^3 + 14T^2 - 7T + 1)/(-T + 1)^{12}$  |                    |
| 2         | 3      | $(2T^{11} - 19T^{10} + 80T^9 - 195T^8 + 300T^7 - 294T^6 + 168T^5 -$  | 2                  |
|           |        | $30T^4 - 30T^3 + 25T^2 - 8T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 2      | $(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 -$  | 129                |
|           |        | $8T+1)/(-T+1)^{12}$  |                    |
| 2         | 1      | $\left(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 - 120T^4 - 120T^6 - 1$ | 22                 |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{12}$  |                    |
| 2         | 2      | $\left(-T^{12} + 12T^{11} - 64T^{10} + 200T^9 - 405T^8 + 552T^7 - 504T^6 + \right)$  | 15                 |
|           |        | $288T^5 - 75T^4 - 20T^3 + 24T^2 - 8T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 1      | $\left(-T^{12} + 11T^{11} - 54T^{10} + 155T^9 - 285T^8 + 342T^7 - 252T^6 + 155T^8 + 155$ | 1                  |
|           |        | $78T^5 + 45T^4 - 65T^3 + 34T^2 - 9T + 1)/(-T + 1)^{12}$  |                    |
| 2         | 2      | $\left(T^{11} - 9T^{10} + 35T^9 - 75T^8 + 90T^7 - 42T^6 - 42T^5 + 90T^4 - 42T^6 -$ | 23                 |
|           |        | $75T^3 + 35T^2 - 9T + 1)/(-T + 1)^{12}$  |                    |
| 1         | 3      | $\left(-2T^{12} + 21T^{11} - 99T^{10} + 275T^9 - 495T^8 + 594T^7 - 462T^6 + \right)$   | 43                 |
|           |        | $198T^5 - 55T^3 + 33T^2 - 9T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 5      | $\left(-4T^{10} + 35T^9 - 135T^8 + 300T^7 - 420T^6 + 378T^5 - 210T^4 + 420T^6 + 378T^5 - 210T^6 + 378T^5 - 210T^6 + 378T^5 - 210T^6 + 378T^6 - 210T^6 - 210T^6 + 378T^6 $ | 7                  |
|           |        | $60T^3 - 5T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 2      | $\left(T^{11} - 11T^{10} + 53T^9 - 147T^8 + 258T^7 - 294T^6 + 210T^5 - 147T^8 + 258T^7 - 294T^6 + 210T^6 $ | 5                  |
|           |        | $78T^4 - 3T^3 + 17T^2 - 7T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 6      | $\left  (-T^{11} + 5T^{10} - T^9 - 51T^8 + 174T^7 - 294T^6 + 294T^5 - 174T^4 + T^7 - 294T^6 + 29$ | 5                  |
|           |        | $51T^3 + T^2 - 5T + 1)/(-T + 1)^{12}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 7      | $(-T^{11} + 4T^{10} + 8T^9 - 87T^8 + 258T^7 - 420T^6 + 420T^5 -$   | 3                  |
|           |        | $258T^4 + 87T^3 - 8T^2 - 4T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 3      | $(T^{11} - 12T^{10} + 62T^9 - 183T^8 + 342T^7 - 420T^6 + 336T^5 -$   | 2                  |
|           |        | $162T^4 + 33T^3 + 8T^2 - 6T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 6      | $(T^{10} - 4T^9 - 3T^8 + 48T^7 - 126T^6 + 168T^5 - 126T^4 + 48T^3 -$   | 1                  |
|           |        | $3T^2 - 4T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^9$  | 31                 |
| 3         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^9$   | 73                 |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$  | 8                  |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$  | 5                  |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$   | 16                 |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$  | 10                 |
| 3         | 5      | $(4T^7 - 23T^6 + 54T^5 - 65T^4 + 40T^3 - 9T^2 - 2T + 1)/(-T + 1)^9$  | 2                  |
| 2         | 2      | $(2T^9 - 17T^8 + 62T^7 - 126T^6 + 154T^5 - 112T^4 + 42T^3 - 2T^2 -$  | 26                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 3         | 4      | $ (T^8 - 4T^7 + 4T^6 + 4T^5 - 10T^4 + 4T^3 + 4T^2 - 4T + 1)/(-T + 1)^9 $                                     | 24                 |
| 2         | 1      | $(T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T +$  | 56                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 8      | $\left(3T^8 - 14T^7 + 22T^6 - 6T^5 - 20T^4 + 22T^3 - 6T^2 - 2T + \right)$                                    | 6                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 6      | $(2T^8 - 9T^7 + 13T^6 - T^5 - 15T^4 + 13T^3 - T^2 - 3T + 1)/(-T + 1)^9$                                      | 8                  |
| 2         | 1      | $\left(2T^9 - 16T^8 + 55T^7 - 105T^6 + 119T^5 - 77T^4 + 21T^3 + 5T^2 - 100000000000000000000000000000000000$ | 48                 |
|           |        | $5T+1)/(-T+1)^9$   |                    |
| 3         | 3      | $\left  (-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T + \frac{1}{2} \right $                      | 6                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^9$  | 16                 |
| 3         | 3      | $\left(T^8 - 5T^7 + 10T^6 - 11T^5 + 10T^4 - 11T^3 + 10T^2 - 5T + \right)$                                    | 18                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^9$  | 67                 |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|---|---------|
| Dimension | Degree | Hilbert Series  | Count   |
| 1         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$                  | 471     |
|           |        | $1)/(-T+1)^9$   |         |
| 1         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$                | 48      |
|           |        | $1)/(-T+1)^9$   |         |
| 2         | 3      | $(-2T^{16} + 32T^{15} - 237T^{14} + 1078T^{13} - 3367T^{12} + 7644T^{11} -$   | 3       |
|           |        | $13013T^{10} + 16874T^9 - 16731T^8 + 12584T^7 - 7007T^6 +$                    |         |
|           |        | $2730T^5 - 637T^4 + 28T^3 + 33T^2 - 10T + 1)/(-T + 1)^{16}$                   |         |
| 2         | 3      | $\left(-3T^{16}+47T^{15}-342T^{14}+1533T^{13}-4732T^{12}+10647T^{11}-\right.$ | 1       |
|           |        | $18018T^{10} + 23309T^9 - 23166T^8 + 17589T^7 - 10010T^6 +$                   |         |
|           |        | $4095T^5 - 1092T^4 + 133T^3 + 18T^2 - 9T + 1)/(-T + 1)^{16}$                  |         |
| 3         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^9$                    | 4       |
| 3         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^8$                          | 26      |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                             | 40      |
| 3         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^8$                           | 36      |
| 0         | 1      | $\left(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T + \right)$     | 126     |
|           |        | $1)/(-T+1)^8$   |         |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$           | 148     |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                           | 28      |
| 4         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^9$                          | 13      |

# $3 \quad \underline{N=4}$

#### 3.1 E=4

Table 10: Quivers with 4 Vertices and 4 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

#### 3.2 E=5

Table 11: Quivers with 4 Vertices and 5 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 4     |
| 1         | 1      | 1/(-T+1)                    | 1     |

#### 3.3 E=6

Table 12: Quivers with 4 Vertices and 6 Edges

| Dimension | Degree | Hilbert Series                                   | Count |
|-----------|--------|--|-------|
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$                      | 23    |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$              | 43    |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$        | 121   |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$ | 2     |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$                 | 1     |
| 2         | 1      | (-T+1)(-2)                                       | 1     |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$                      | 9     |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$              | 2     |

Table 13: Quivers with 4 Vertices and 7 Edges

| Dimension | Degree | Hilbert Series  | Count              |
|-----------|--------|---|--------------------|
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 245                |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                    | 74                 |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 13                 |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 398                |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 198                |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 12                 |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                           | 16                 |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$        | 3272               |
|           |        | $1)/(-T+1)^8$   |                    |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$ | 1570               |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$ | 74                 |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$      | 399                |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$    | 47                 |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                   | 125                |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 17                 |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$                          | 1                  |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$                                 | 2                  |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$                           | 1                  |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$                   | 2                  |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$                    | 4                  |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                 | 95                 |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$          | 143                |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                           | 111                |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                 | 34                 |
| 3         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$                                    | 2                  |
| 3         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$        | 3                  |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                     | 4                  |
|           |        | Continued on next   | $page \rightarrow$ |

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|---|--------|---|---------|
| Dimension                                 | Degree | Hilbert Series                                      | Count   |
| 3   | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                 | 9       |
| 0   | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$ | 16      |

### 3.5 E=8

Table 14: Quivers with 4 Vertices and 8 Edges

| Dimension | Degree | Hilbert Series   | Count                         |
|-----------|--------|--|-------------------------------|
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$      | 661                           |
| 3         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^8$                      | 87                            |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$             | 677                           |
|           |        | $1)/(-T+1)^8$  |                               |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                        | 237                           |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                      | 91                            |
| 3         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^8$                     | 80                            |
| 4         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^7$                                      | 1                             |
| 3         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^7$                                | 99                            |
| 1         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^7$               | 14                            |
| 3         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^7$                         | 64                            |
| 2         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^7$                      | 28                            |
| 0         | 1      | $(T^{16} - 16T^{15} + 120T^{14} - 560T^{13} + 1820T^{12} - 4368T^{11} +$ | 6968                          |
|           |        | $8008T^{10} - 11440T^9 + 12870T^8 - 11440T^7 + 8008T^6 - 4368T^5 +$      |                               |
|           |        | $1820T^4 - 560T^3 + 120T^2 - 16T + 1)/(-T + 1)^{16}$                     |                               |
| 1         | 2      | $(-T^{16} + 14T^{15} - 90T^{14} + 350T^{13} - 910T^{12} + 1638T^{11} -$  | 1437                          |
|           |        | $2002T^{10} + 1430T^9 - 1430T^7 + 2002T^6 - 1638T^5 + 910T^4 -$          |                               |
|           |        | $350T^3 + 90T^2 - 14T + 1)/(-T + 1)^{16}$                                |                               |
|           |        | Continued on next  | $\overline{page} \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 1         | 1      | $(-T^{15} + 15T^{14} - 105T^{13} + 455T^{12} - 1365T^{11} + 3003T^{10} -$  | 1374               |
|           |        | $5005T^9 + 6435T^8 - 6435T^7 + 5005T^6 - 3003T^5 + 1365T^4 -$  |                    |
|           |        | $455T^3 + 105T^2 - 15T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 4      | $\left(-3T^{16}+44T^{15}-300T^{14}+1260T^{13}-3640T^{12}+7644T^{11}-\right.$   | 109                |
|           |        | $12012T^{10} + 14300T^9 - 12870T^8 + 8580T^7 - 4004T^6 + 1092T^5 -$  |                    |
|           |        | $140T^3 + 60T^2 - 12T + 1)/(-T + 1)^{16}$  |                    |
| 1         | 3      | $(-2T^{16} + 29T^{15} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} -$   | 353                |
|           |        | $7007T^{10} + 7865T^9 - 6435T^8 + 3575T^7 - 1001T^6 - 273T^5 +$  |                    |
|           |        | $455T^4 - 245T^3 + 75T^2 - 13T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 6      | $(-T^{15} + 9T^{14} - 27T^{13} - 13T^{12} + 351T^{11} - 1287T^{10} + 2717T^9 -$  | 14                 |
|           |        | $3861T^8 + 3861T^7 - 2717T^6 + 1287T^5 - 351T^4 + 13T^3 + 27T^2 -$   |                    |
|           |        | $9T+1)/(-T+1)^{16}$  |                    |
| 2         | 2      | $(T^{15} - 13T^{14} + 77T^{13} - 273T^{12} + 637T^{11} - 1001T^{10} + 1001T^{9} -$   | 617                |
|           |        | $429T^8 - 429T^7 + 1001T^6 - 1001T^5 + 637T^4 - 273T^3 + 77T^2 -$  |                    |
|           |        | $13T+1)/(-T+1)^{16}$   |                    |
| 2         | 1      | $\left  (T^{14} - 14T^{13} + 91T^{12} - 364T^{11} + 1001T^{10} - 2002T^9 + 3003T^8 - 100000000000000000000000000000000000$ | 84                 |
|           |        | $3432T^7 + 3003T^6 - 2002T^5 + 1001T^4 - 364T^3 + 91T^2 - 14T +$   |                    |
|           |        | $1)/(-T+1)^{16}$   |                    |
| 4         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^8$  | 84                 |
| 4         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^8$  | 49                 |
| 4         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^8$  | 13                 |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$   | 520                |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$   | 372                |
| 3         | 1      | $T^7 - 6T^6 + 14T^5 - 15T^4 + 5T^3 + 4T^2 - 4T + 1)/(-T + 1)^8$  | 16                 |
| 4         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^9$   | 64                 |
| 1         | 2      | $(-T^{12} + 10T^{11} - 44T^{10} + 110T^9 - 165T^8 + 132T^7 - 132T^5 +$   | 920                |
|           |        | $165T^4 - 110T^3 + 44T^2 - 10T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 1      | $(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 -$  | 331                |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{12}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

|                      |        | $\leftarrow$ Continued from previo   | ous page |
|----------------------|--------|--|----------|
| Dimension            | Degree | Hilbert Series   | Count    |
| 1                    | 3      | $(-2T^{12} + 21T^{11} - 99T^{10} + 275T^9 - 495T^8 + 594T^7 - 462T^6 +$  | 109      |
|                      |        | $198T^5 - 55T^3 + 33T^2 - 9T + 1)/(-T + 1)^{12}$   |          |
| 1                    | 1      | $(-T^{11} + 11T^{10} - 55T^9 + 165T^8 - 330T^7 + 462T^6 - 462T^5 +$  | 2392     |
|                      |        | $330T^4 - 165T^3 + 55T^2 - 11T + 1)/(-T + 1)^{12}$   |          |
| 0                    | 1      | $(T^{12} - 12T^{11} + 66T^{10} - 220T^9 + 495T^8 - 792T^7 + 924T^6 -$  | 1777     |
|                      |        | $792T^5 + 495T^4 - 220T^3 + 66T^2 - 12T + 1)/(-T + 1)^{12}$  |          |
| 2                    | 2      | $(T^{11} - 9T^{10} + 35T^9 - 75T^8 + 90T^7 - 42T^6 - 42T^5 + 90T^4 -$  | 272      |
|                      |        | $75T^3 + 35T^2 - 9T + 1)/(-T + 1)^{12}$  |          |
| 2                    | 1      | $(-T^{12} + 11T^{11} - 54T^{10} + 155T^9 - 285T^8 + 342T^7 - 252T^6 +$   | 56       |
|                      |        | $78T^5 + 45T^4 - 65T^3 + 34T^2 - 9T + 1)/(-T + 1)^{12}$  |          |
| 3                    | 2      | $(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 -$  | 290      |
|                      |        | $8T+1)/(-T+1)^{12}$  |          |
| 2                    | 2      | $\left  (-T^{12} + 12T^{11} - 64T^{10} + 200T^9 - 405T^8 + 552T^7 - 504T^6 + \right $  | 75       |
|                      |        | $288T^5 - 75T^4 - 20T^3 + 24T^2 - 8T + 1)/(-T + 1)^{12}$   |          |
| 3                    | 2      | $\left  (T^{11} - 11T^{10} + 53T^9 - 147T^8 + 258T^7 - 294T^6 + 210T^5 - 147T^8 + 258T^7 - 294T^6 + 210T^6 + 210T^$ | 53       |
|                      |        | $78T^4 - 3T^3 + 17T^2 - 7T + 1)/(-T + 1)^{12}$   |          |
| 3                    | 3      | $\left  (-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 - 126T^6 + 126T^6 $ | 77       |
|                      |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^{12}$  |          |
| 2                    | 1      | $\left  (-2T^{12} + 22T^{11} - 109T^{10} + 320T^9 - 615T^8 + 804T^7 - 714T^6 + \right $  | 3        |
|                      |        | $408T^5 - 120T^4 - 10T^3 + 23T^2 - 8T + 1)/(-T + 1)^{12}$  |          |
| 4                    | 3      | $\left  (2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T + 48T^6 + 84T^6 + 84T^$ | 3        |
|                      |        | $1)/(-T+1)^{12}$   |          |
| 3                    | 5      | $\left  (-4T^{10} + 35T^9 - 135T^8 + 300T^7 - 420T^6 + 378T^5 - 210T^4 + \right $  | 26       |
|                      |        | $60T^3 - 5T + 1)/(-T + 1)^{12}$  |          |
| 4                    | 3      | $\left  (-2T^{10} + 20T^9 - 87T^8 + 216T^7 - 336T^6 + 336T^5 - 210T^4 + \right $   | 2        |
|                      |        | $72T^3 - 6T^2 - 4T + 1)/(-T + 1)^{12}$   |          |
| 3                    | 4      | $\left  (-3T^{10} + 26T^9 - 99T^8 + 216T^7 - 294T^6 + 252T^5 - 126T^4 + \right $   | 8        |
|                      |        | $24T^3 + 9T^2 - 6T + 1)/(-T + 1)^{12}$   |          |
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|           |        | $\leftarrow$ Continued from previo   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$  | 136                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 2476               |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 2      | $\left(T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 - 12T^4 + 20T^4 - 28T^3 + 20T^4 - 12T^4 + 20T^4 - 28T^4 - 28T^4$ | 655                |
|           |        | $(7T+1)/(-T+1)^{10}$   |                    |
| 3         | 1      | $\left  (T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^5 - 21T^4 - 7T^5 - 21T^5 - 2$ | 17                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 2      | $(T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 14T^3 + 14$     | 175                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)$  | 52                 |
|           |        | $1)^{10}$  |                    |
| 2         | 3      | $\left(2T^{11} - 19T^{10} + 80T^9 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 1000T^7 - 100$ | 47                 |
|           |        | $30T^4 - 30T^3 + 25T^2 - 8T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 6      | $\left(5T^9 - 39T^8 + 132T^7 - 252T^6 + 294T^5 - 210T^4 + 84T^3 - 48T^4 + 120T^4 + 84T^3 - 48T^4 + 120T^4 + 120T^4$ | 1                  |
|           |        | $12T^2 - 3T + 1)/(-T + 1)^{12}$  |                    |
| 2         | 3      | $\left(-T^{12} + 13T^{11} - 74T^{10} + 245T^9 - 525T^8 + 762T^7 - 756T^6 + \right)$  | 7                  |
|           |        | $498T^5 - 195T^4 + 25T^3 + 14T^2 - 7T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 6      | $\left  (-T^{11} + 5T^{10} - T^9 - 51T^8 + 174T^7 - 294T^6 + 294T^5 - 174T^4 + \right $  | 8                  |
|           |        | $51T^3 + T^2 - 5T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 3      | $\left  (T^{11} - 12T^{10} + 62T^9 - 183T^8 + 342T^7 - 420T^6 + 336T^5 - 185T^6 + 185T^$ | 18                 |
|           |        | $162T^4 + 33T^3 + 8T^2 - 6T + 1)/(-T + 1)^{12}$  |                    |
| 2         | 1      | $\left(-T^{16} + 15T^{15} - 104T^{14} + 441T^{13} - 1274T^{12} + 2639T^{11} - 1274T^{11} - 1274T^{1$ | 20                 |
|           |        | $4004T^{10} + 4433T^9 - 3432T^8 + 1573T^7 - 637T^5 + 546T^4 -$   |                    |
|           |        | $259T^3 + 76T^2 - 13T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 4      | $\left(-T^{16} + 18T^{15} - 146T^{14} + 714T^{13} - 2366T^{12} + 5642T^{11} - 146T^{14} + 714T^{14} + 714T^{14} - 146T^{14} + 714T^{14} + 714T^$ | 13                 |
|           |        | $10010T^{10} + 13442T^9 - 13728T^8 + 10582T^7 - 6006T^6 +$   |                    |
|           |        | $2366T^5 - 546T^4 + 14T^3 + 34T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 2      | $(-T^{16} + 16T^{15} - 118T^{14} + 532T^{13} - 1638T^{12} + 3640T^{11} -$  | 174                |
|           |        | $6006T^{10} + 7436T^9 - 6864T^8 + 4576T^7 - 2002T^6 + 364T^5 +$  |                    |
|           |        | $182T^4 - 168T^3 + 62T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 2      | $(-2T^{16} + 31T^{15} - 223T^{14} + 987T^{13} - 3003T^{12} + 6643T^{11} -$   | 59                 |
|           |        | $11011T^{10} + 13871T^9 - 13299T^8 + 9581T^7 - 5005T^6 + 1729T^5 -$  |                    |
|           |        | $273T^4 - 63T^3 + 47T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 2      | $(-3T^{16} + 46T^{15} - 328T^{14} + 1442T^{13} - 4368T^{12} + 9646T^{11} -$  | 6                  |
|           |        | $16016T^{10} + 20306T^9 - 19734T^8 + 14586T^7 - 8008T^6 +$   |                    |
|           |        | $3094T^5 - 728T^4 + 42T^3 + 32T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 6      | $(-5T^{14} + 64T^{13} - 377T^{12} + 1352T^{11} - 3289T^{10} + 5720T^9 -$   | 7                  |
|           |        | $7293T^8 + 6864T^7 - 4719T^6 + 2288T^5 - 715T^4 + 104T^3 +$  |                    |
|           |        | $13T^2 - 8T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 3      | $(2T^{15} - 27T^{14} + 168T^{13} - 637T^{12} + 1638T^{11} - 3003T^{10} +$  | 129                |
|           |        | $4004T^9 - 3861T^8 + 2574T^7 - 1001T^6 + 273T^4 - 182T^3 +$  |                    |
|           |        | $63T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 3      | $\left(-T^{16} + 17T^{15} - 132T^{14} + 623T^{13} - 2002T^{12} + 4641T^{11} - 12002T^{12} + 4641T^{12} - 12002T^{12} + 4002T^{12} + 4002T$ | 36                 |
|           |        | $8008T^{10} + 10439T^9 - 10296T^8 + 7579T^7 - 4004T^6 + 1365T^5 -$   |                    |
|           |        | $182T^4 - 77T^3 + 48T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 4         | 6      | $\left(T^{14} - 8T^{13} + 19T^{12} + 32T^{11} - 319T^{10} + 968T^9 - 1749T^8 + \right)$  | 5                  |
|           |        | $2112T^7 - 1749T^6 + 968T^5 - 319T^4 + 32T^3 + 19T^2 - 8T +$   |                    |
|           |        | $1)/(-T+1)^{16}$   |                    |
| 2         | 4      | $\left(3T^{15} - 41T^{14} + 259T^{13} - 1001T^{12} + 2639T^{11} - 5005T^{10} + \right)$  | 21                 |
|           |        | $7007T^9 - 7293T^8 + 5577T^7 - 3003T^6 + 1001T^5 - 91T^4 -$  |                    |
|           |        | $91T^3 + 49T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 5      | $(-4T^{16} + 59T^{15} - 405T^{14} + 1715T^{13} - 5005T^{12} + 10647T^{11} -$   | 16                 |
|           |        | $17017T^{10} + 20735T^9 - 19305T^8 + 13585T^7 - 7007T^6 +$   |                    |
|           |        | $2457T^5 - 455T^4 - 35T^3 + 45T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

| previous         | ıs page           |
|------------------|-------------------|
| С                | Count             |
| <sup>711</sup> – | 13                |
| $\Gamma^6$ +     |                   |
| 5                |                   |
| $T^2-$           | 615               |
|                  |                   |
| $T^4 - 1$        | 1385              |
|                  |                   |
| 6T +             | 149               |
|                  |                   |
| $-1)^{10}$       | 158               |
| $T^2$ –          | 342               |
|                  |                   |
| 3T + 3           | 3129              |
|                  |                   |
| 5T +             | 57                |
|                  |                   |
| $+1)^9$          | 1677              |
| $T^2-$           | 315               |
|                  |                   |
| $T^2-$           | 27                |
|                  |                   |
| $+1)^9$          | 300               |
| 6T +             | 205               |
|                  |                   |
| $+1)^9$          | 3                 |
| 5T +             | 68                |
|                  |                   |
| 5T +             | 26                |
|                  |                   |
| next pag         | $age \rightarrow$ |

|           |        | $\leftarrow$ Continued from previous   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^9$  | 177                |
| 4         | 3      | $(2T^8 - 11T^7 + 22T^6 - 16T^5 - 5T^4 + 13T^3 - 4T^2 - 2T +$   | 3                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 1      | $(2T^9 - 16T^8 + 55T^7 - 105T^6 + 119T^5 - 77T^4 + 21T^3 + 5T^2 -$   | 42                 |
|           |        | $5T+1)/(-T+1)^9$   |                    |
| 3         | 8      | $(3T^8 - 14T^7 + 22T^6 - 6T^5 - 20T^4 + 22T^3 - 6T^2 - 2T +$   | 8                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 3      | $(T^9 - 10T^8 + 41T^7 - 91T^6 + 119T^5 - 91T^4 + 35T^3 - T^2 -$  | 20                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 3         | 6      | $(2T^8 - 9T^7 + 13T^6 - T^5 - 15T^4 + 13T^3 - T^2 - 3T + 1)/(-T + 1)^9$  | 18                 |
| 3         | 3      | $(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$   | 14                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 4      | $(T^8 - 4T^7 + 4T^6 + 4T^5 - 10T^4 + 4T^3 + 4T^2 - 4T + 1)/(-T + 1)^9$   | 72                 |
| 1         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$   | 102                |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 1      | $(-T^{10} + 10T^9 - 44T^8 + 111T^7 - 175T^6 + 175T^5 - 105T^4 +$   | 5                  |
|           |        | $29T^3 + 4T^2 - 5T + 1)/(-T + 1)^9$  |                    |
| 2         | 2      | $\left(2T^9 - 17T^8 + 62T^7 - 126T^6 + 154T^5 - 112T^4 + 42T^3 - 2T^2 - 12T^4 + 42T^3 - 2T^2 - 12T^4 + 12T^3 - 12T^4 + 12T^3 - 12T^4 + 12T^3 - 12T^4 + 12T^3 - 12T^4 + 12T^4 - 12T^4 + 12T^4 - 12T^4 + 12T^4 - 12T^4 + 12T^4 - 12$ | 14                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 3         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^9$   | 584                |
| 3         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^9$   | 427                |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$  | 153                |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$  | 49                 |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$  | 23                 |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$   | 314                |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$  | 138                |
| 4         | 1      | $(T^2 - 2T + 1)/(-T + 1)^6$  | 14                 |
| 3         | 4      | $(3T^5 - 11T^4 + 14T^3 - 6T^2 - T + 1)/(-T + 1)^7$   | 2                  |
| 3         | 2      | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^7$   | 1                  |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page |
|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 2         | 1      | $(2T^7 - 12T^6 + 29T^5 - 35T^4 + 20T^3 - 2T^2 - 3T + 1)/(-T + 1)^7$                  | 8       |
| 1         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^7$                       | 52      |
| 3         | 4      | $(T^6 - 2T^5 - T^4 + 4T^3 - T^2 - 2T + 1)/(-T + 1)^7$                                | 3       |
| 3         | 3      | $(T^6 - 3T^5 + 3T^4 - 2T^3 + 3T^2 - 3T + 1)/(-T + 1)^7$                              | 6       |
| 1         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^7$                  | 12      |
| 3         | 10     | $(-2T^{15} + 19T^{14} - 66T^{13} + 39T^{12} + 494T^{11} - 2145T^{10} +$              | 3       |
|           |        | $4862T^9 - 7293T^8 + 7722T^7 - 5863T^6 + 3146T^5 - 1131T^4 +$                        |         |
|           |        | $234T^3 - 11T^2 - 6T + 1)/(-T + 1)^{16}$   |         |
| 2         | 4      | $(3T^{11} - 29T^{10} + 125T^9 - 315T^8 + 510T^7 - 546T^6 + 378T^5 -$                 | 10      |
|           |        | $150T^4 + 15T^3 + 15T^2 - 7T + 1)/(-T + 1)^{12}$                                     |         |
| 3         | 7      | $(-T^{11} + 4T^{10} + 8T^9 - 87T^8 + 258T^7 - 420T^6 + 420T^5 -$                     | 7       |
|           |        | $258T^4 + 87T^3 - 8T^2 - 4T + 1)/(-T + 1)^{12}$                                      |         |
| 3         | 2      | $(2T^{11} - 21T^{10} + 98T^9 - 267T^8 + 468T^7 - 546T^6 + 420T^5 -$                  | 3       |
|           |        | $198T^4 + 42T^3 + 7T^2 - 6T + 1)/(-T + 1)^{12}$                                      |         |
| 1         | 4      | $(-3T^{12} + 32T^{11} - 154T^{10} + 440T^9 - 825T^8 + 1056T^7 - 924T^6 +$            | 5       |
|           |        | $528T^5 - 165T^4 + 22T^2 - 8T + 1)/(-T + 1)^{12}$                                    |         |
| 4         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^8$                                     | 18      |
| 4         | 2      | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^8$                           | 8       |
| 3         | 4      | $\left(-3T^{14} + 38T^{13} - 221T^{12} + 780T^{11} - 1859T^{10} + 3146T^9 - \right)$ | 2       |
|           |        | $3861T^8 + 3432T^7 - 2145T^6 + 858T^5 - 143T^4 - 52T^3 + 39T^2 -$                    |         |
|           |        | $10T+1)/(-T+1)^{16}$   |         |
| 4         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^9$                                    | 156     |
| 4         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^9$                     | 62      |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$  | 4       |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$  | 4       |
| 3         | 2      | $(-T^{14} + 12T^{13} - 65T^{12} + 208T^{11} - 429T^{10} + 572T^9 - 429T^8 +$         | 10      |
|           |        | $429T^6 - 572T^5 + 429T^4 - 208T^3 + 65T^2 - 12T + 1)/(-T + 1)^{16}$                 |         |
|           |        | Continued on next  | page –  |

|           |        | $\leftarrow$ Continued from previo   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 5      | $\left(4T^{15} - 55T^{14} + 350T^{13} - 1365T^{12} + 3640T^{11} - 7007T^{10} + \right.$  | 8                  |
|           |        | $10010T^9 - 10725T^8 + 8580T^7 - 5005T^6 + 2002T^5 - 455T^4 +$   |                    |
|           |        | $35T^2 - 10T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $(T^{15} - 15T^{14} + 103T^{13} - 429T^{12} + 1209T^{11} - 2431T^{10} +$   | 12                 |
|           |        | $3575T^9 - 3861T^8 + 3003T^7 - 1573T^6 + 429T^5 + 65T^4 - 117T^3 +$  |                    |
|           |        | $51T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{16} + 15T^{15} - 106T^{14} + 467T^{13} - 1430T^{12} + 3211T^{11} - 147T^{11} - 147T^{11} + 3211T^{11} - 147T^{11} + 3211T^{11} - 147T^{11} - 147T^{11}$ | 2                  |
|           |        | $5434T^{10} + 7007T^9 - 6864T^8 + 5005T^7 - 2574T^6 + 793T^5 -$  |                    |
|           |        | $26T^4 - 103T^3 + 50T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 2      | $\left(2T^{15} - 29T^{14} + 194T^{13} - 793T^{12} + 2210T^{11} - 4433T^{10} + \right)$   | 2                  |
|           |        | $6578T^9 - 7293T^8 + 6006T^7 - 3575T^6 + 1430T^5 - 299T^4 -$   |                    |
|           |        | $26T^3 + 37T^2 - 10T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{16} + 17T^{15} - 134T^{14} + 649T^{13} - 2158T^{12} + 5213T^{11} - \right)$   | 1                  |
|           |        | $9438T^{10} + 13013T^9 - 13728T^8 + 11011T^7 - 6578T^6 + 2795T^5 -$  |                    |
|           |        | $754T^4 + 79T^3 + 22T^2 - 9T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 6      | $(-3T^5 + 7T^4 - 4T^3 - T + 1)/(-T + 1)^6$   | 2                  |
| 2         | 6      | $(3T^6 - 10T^5 + 11T^4 - 4T^3 + T^2 - 2T + 1)/(-T + 1)^6$  | 2                  |
| 2         | 5      | $\left(-T^{16} + 19T^{15} - 160T^{14} + 805T^{13} - 2730T^{12} + 6643T^{11} - \right)$   | 1                  |
|           |        | $12012T^{10} + 16445T^9 - 17160T^8 + 13585T^7 - 8008T^6 +$   |                    |
|           |        | $3367T^5 - 910T^4 + 105T^3 + 20T^2 - 9T + 1)/(-T + 1)^{16}$  |                    |
| 4         | 2      | $(T^8 - 5T^7 + 8T^6 - T^5 - 10T^4 + 9T^3 - 3T + 1)/(-T + 1)^9$   | 8                  |
| 4         | 2      | $(2T^7 - 13T^6 + 34T^5 - 45T^4 + 30T^3 - 7T^2 - 2T + 1)/(-T + 1)^9$  | 2                  |
| 3         | 5      | $(4T^7 - 23T^6 + 54T^5 - 65T^4 + 40T^3 - 9T^2 - 2T + 1)/(-T + 1)^9$  | 3                  |
| 4         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^{10}$   | 23                 |
| 4         | 3      | $\left(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T + \right)$  | 10                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 6      | $(T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + 2T^4 - 2T^4$     | 5                  |
|           |        | $1)^{10}$  |                    |
| 4         | 6      | $(-T^7 + T^6 + 9T^5 - 25T^4 + 25T^3 - 9T^2 - T + 1)/(-T + 1)^9$  | 2                  |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page |
|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 3         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^7$                            | 12      |
| 2         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^7$                         | 12      |
| 2         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^7$                            | 48      |
| 2         | 3      | $(-3T^{16} + 47T^{15} - 342T^{14} + 1533T^{13} - 4732T^{12} + 10647T^{11} -$ | 1       |
|           |        | $18018T^{10} + 23309T^9 - 23166T^8 + 17589T^7 - 10010T^6 +$                  |         |
|           |        | $4095T^5 - 1092T^4 + 133T^3 + 18T^2 - 9T + 1)/(-T + 1)^{16}$                 |         |
| 4         | 2      | $(T^9 - 8T^8 + 29T^7 - 61T^6 + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T +$           | 5       |
|           |        | $1)/(-T+1)^{10}$   |         |
| 4         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^{10}$            | 3       |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$                                   | 2       |
| 2         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^6$                            | 2       |
| 4         | 2      | $(2T^8 - 10T^7 + 17T^6 - 6T^5 - 15T^4 + 18T^3 - 5T^2 - 2T +$                 | 2       |
|           |        | $1)/(-T+1)^9$  |         |
| 3         | 2      | $(-T^{16} + 16T^{15} - 120T^{14} + 558T^{13} - 1794T^{12} + 4212T^{11} -$    | 2       |
|           |        | $7436T^{10} + 10010T^9 - 10296T^8 + 8008T^7 - 4576T^6 + 1794T^5 -$           |         |
|           |        | $390T^4 - 12T^3 + 36T^2 - 10T + 1)/(-T + 1)^{16}$                            |         |
| 3         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$                 | 3       |
|           |        | $1)/(-T+1)^9$  |         |
| 3         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^9$          | 2       |
| 2         | 1      | $(-2T^{16} + 30T^{15} - 209T^{14} + 896T^{13} - 2639T^{12} + 5642T^{11} -$   | 1       |
|           |        | $9009T^{10} + 10868T^9 - 9867T^8 + 6578T^7 - 3003T^6 + 728T^5 +$             |         |
|           |        | $91T^4 - 154T^3 + 61T^2 - 12T + 1)/(-T + 1)^{16}$                            |         |

## $4 \quad \underline{N=5}$

## 4.1 E=5

Table 15: Quivers with 5 Vertices and 5 Edges

| Dimensi | on Deg | gree | Hilbert Series | Count |
|---------|--------|------|----------------|-------|
| 0       | 1      |      | 1              | 1     |

#### 4.2 E=6

Table 16: Quivers with 5 Vertices and 6 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 3     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 6     |

#### 4.3 E=7

Table 17: Quivers with 5 Vertices and 7 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 39    |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 161   |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 67    |
| 2         | 1      | (-T+1)(-2)                                | 6     |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 3     |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 21    |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 18    |

Table 18: Quivers with 5 Vertices and 8 Edges

| Dimension | Degree | Hilbert Series  | Count              |
|-----------|--------|---|--------------------|
| 3         | 1      | (-T+1)(-3)  | 4                  |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 63                 |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$                                       | 8                  |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                                 | 493                |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                       | 168                |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 106                |
| 3         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$  | 13                 |
| 0         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$                       | 202                |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                                 | 727                |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                       | 36                 |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$                | 1674               |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                          | 170                |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                       | 852                |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                                 | 120                |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$                                 | 7                  |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$                                       | 14                 |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$                         | 8                  |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$                          | 28                 |
| 0         | 1      | $\left(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T + \right)$ | 5161               |
|           |        | $1)/(-T+1)^8$   |                    |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$            | 627                |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$       | 2749               |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$       | 145                |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$                | 455                |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                           | 24                 |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                       | 53                 |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                         | 192                |
|           |        | Continued on next   | $page \rightarrow$ |

|           | $\leftarrow$ Continued from previou |  |       |
|-----------|-------------------------------------|--|-------|
| Dimension | Degree                              | Hilbert Series   | Count |
| 3         | 2                                   | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$   | 75    |
| 2         | 1                                   | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$  | 2     |
| 3         | 3                                   | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$   | 1     |
| 1         | 2                                   | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$  | 18    |
| 1         | 2                                   | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$  | 280   |
| 3         | 4                                   | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$   | 13    |
| 2         | 3                                   | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$   | 2     |
| 2         | 1                                   | $(-T^8 + 7T^7 - 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + 20T^6 + 29T^6 + 29T^6 + 20T^6 + 20T^$ | 31    |
|           |                                     | $(1)^8$  |       |

#### 4.5 E=9

Table 19: Quivers with 5 Vertices and 9 Edges

| Dimension | Degree | Hilbert Series   | Count              |
|-----------|--------|--|--------------------|
| 0         | 1      | $(T^{16} - 16T^{15} + 120T^{14} - 560T^{13} + 1820T^{12} - 4368T^{11} +$           | 10856              |
|           |        | $8008T^{10} - 11440T^9 + 12870T^8 - 11440T^7 + 8008T^6 - 4368T^5 +$                |                    |
|           |        | $1820T^4 - 560T^3 + 120T^2 - 16T + 1)/(-T + 1)^{16}$                               |                    |
| 1         | 1      | $(-T^{15} + 15T^{14} - 105T^{13} + 455T^{12} - 1365T^{11} + 3003T^{10} -$          | 2748               |
|           |        | $5005T^9 + 6435T^8 - 6435T^7 + 5005T^6 - 3003T^5 + 1365T^4 -$                      |                    |
|           |        | $455T^3 + 105T^2 - 15T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 2      | $(T^{15} - 13T^{14} + 77T^{13} - 273T^{12} + 637T^{11} - 1001T^{10} + 1001T^{9} -$ | 1144               |
|           |        | $429T^8 - 429T^7 + 1001T^6 - 1001T^5 + 637T^4 - 273T^3 + 77T^2 -$                  |                    |
|           |        | $13T+1)/(-T+1)^{16}$   |                    |
| 1         | 2      | $(-T^{16} + 14T^{15} - 90T^{14} + 350T^{13} - 910T^{12} + 1638T^{11} -$            | 2221               |
|           |        | $2002T^{10} + 1430T^9 - 1430T^7 + 2002T^6 - 1638T^5 + 910T^4 -$                    |                    |
|           |        | $350T^3 + 90T^2 - 14T + 1)/(-T + 1)^{16}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 1      | $ (T^{14} - 14T^{13} + 91T^{12} - 364T^{11} + 1001T^{10} - 2002T^9 + 3003T^8 -$  | 135                |
|           |        | $3432T^7 + 3003T^6 - 2002T^5 + 1001T^4 - 364T^3 + 91T^2 - 14T +$   |                    |
|           |        | $1)/(-T+1)^{16}$   |                    |
| 2         | 2      | $\left(-T^{16} + 16T^{15} - 118T^{14} + 532T^{13} - 1638T^{12} + 3640T^{11} - 167T^{12} + 3640T^{12} + 3$ | 370                |
|           |        | $6006T^{10} + 7436T^9 - 6864T^8 + 4576T^7 - 2002T^6 + 364T^5 +$  |                    |
|           |        | $182T^4 - 168T^3 + 62T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 3      | $\left(-2T^{16} + 29T^{15} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} - 4641T^{$ | 598                |
|           |        | $7007T^{10} + 7865T^9 - 6435T^8 + 3575T^7 - 1001T^6 - 273T^5 +$  |                    |
|           |        | $455T^4 - 245T^3 + 75T^2 - 13T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 4      | $(-3T^{16} + 44T^{15} - 300T^{14} + 1260T^{13} - 3640T^{12} + 7644T^{11} -$  | 176                |
|           |        | $12012T^{10} + 14300T^9 - 12870T^8 + 8580T^7 - 4004T^6 + 1092T^5 -$  |                    |
|           |        | $140T^3 + 60T^2 - 12T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 6      | $(-5T^{14} + 64T^{13} - 377T^{12} + 1352T^{11} - 3289T^{10} + 5720T^9 -$   | 7                  |
|           |        | $7293T^8 + 6864T^7 - 4719T^6 + 2288T^5 - 715T^4 + 104T^3 +$  |                    |
|           |        | $13T^2 - 8T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 4      | $(-T^{16} + 18T^{15} - 146T^{14} + 714T^{13} - 2366T^{12} + 5642T^{11} -$  | 27                 |
|           |        | $10010T^{10} + 13442T^9 - 13728T^8 + 10582T^7 - 6006T^6 +$   |                    |
|           |        | $2366T^5 - 546T^4 + 14T^3 + 34T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 3      | $(2T^{15} - 27T^{14} + 168T^{13} - 637T^{12} + 1638T^{11} - 3003T^{10} +$  | 208                |
|           |        | $4004T^9 - 3861T^8 + 2574T^7 - 1001T^6 + 273T^4 - 182T^3 +$  |                    |
|           |        | $63T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 3      | $(-2T^{16} + 32T^{15} - 237T^{14} + 1078T^{13} - 3367T^{12} + 7644T^{11} -$  | 14                 |
|           |        | $13013T^{10} + 16874T^9 - 16731T^8 + 12584T^7 - 7007T^6 +$   |                    |
|           |        | $2730T^5 - 637T^4 + 28T^3 + 33T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 1      | $(-T^{16} + 15T^{15} - 104T^{14} + 441T^{13} - 1274T^{12} + 2639T^{11} -$  | 42                 |
|           |        | $4004T^{10} + 4433T^9 - 3432T^8 + 1573T^7 - 637T^5 + 546T^4 -$   |                    |
|           |        | $259T^3 + 76T^2 - 13T + 1)/(-T + 1)^{16}$  |                    |
|           | •      | Continued on next  | $page \rightarrow$ |

| Count | Hilbert Series   | Degree | Dimension |
|-------|--|--------|-----------|
| 125   | $(-2T^{16} + 31T^{15} - 223T^{14} + 987T^{13} - 3003T^{12} + 6643T^{11} -$   | 2      | 2         |
|       | $11011T^{10} + 13871T^9 - 13299T^8 + 9581T^7 - 5005T^6 + 1729T^5 -$  |        |           |
|       | $273T^4 - 63T^3 + 47T^2 - 11T + 1)/(-T + 1)^{16}$  |        |           |
| 54    | $(-T^{16} + 17T^{15} - 132T^{14} + 623T^{13} - 2002T^{12} + 4641T^{11} -$  | 3      | 2         |
|       | $ 8008T^{10} + 10439T^9 - 10296T^8 + 7579T^7 - 4004T^6 + 1365T^5 - $   |        |           |
|       | $182T^4 - 77T^3 + 48T^2 - 11T + 1)/(-T + 1)^{16}$  |        |           |
| 17    | $(-T^{15} + 9T^{14} - 27T^{13} - 13T^{12} + 351T^{11} - 1287T^{10} + 2717T^9 -$  | 6      | 3         |
|       | $3861T^8 + 3861T^7 - 2717T^6 + 1287T^5 - 351T^4 + 13T^3 + 27T^2 -$   |        |           |
|       | $9T+1)/(-T+1)^{16}$  |        |           |
| 6058  | $(T^{12} - 12T^{11} + 66T^{10} - 220T^9 + 495T^8 - 792T^7 + 924T^6 -$  | 1      | 0         |
|       | $792T^5 + 495T^4 - 220T^3 + 66T^2 - 12T + 1)/(-T + 1)^{12}$  |        |           |
| 5498  | $(-T^{11} + 11T^{10} - 55T^9 + 165T^8 - 330T^7 + 462T^6 - 462T^5 +$  | 1      | 1         |
|       | $330T^4 - 165T^3 + 55T^2 - 11T + 1)/(-T + 1)^{12}$   |        |           |
| 149   | $(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 -$   | 3      | 3         |
|       | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^{12}$  |        |           |
| 1709  | $\left  (-T^{12} + 10T^{11} - 44T^{10} + 110T^9 - 165T^8 + 132T^7 - 132T^5 + \right $  | 2      | 1         |
|       | $165T^4 - 110T^3 + 44T^2 - 10T + 1)/(-T + 1)^{12}$   |        |           |
| 525   | $\left  (-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 - 42T^6 + 42T^4 - 48T^4 -$ | 2      | 3         |
|       | $8T+1)/(-T+1)^{12}$  |        |           |
| 682   | $\left  (T^{11} - 9T^{10} + 35T^9 - 75T^8 + 90T^7 - 42T^6 - 42T^5 + 90T^4 - 42T^6 - 42T^5 + 90T^4 - 42T^6 - 42T^6$ | 2      | 2         |
|       | $75T^3 + 35T^2 - 9T + 1)/(-T + 1)^{12}$  |        |           |
| 302   | $\left  (-T^{12} + 11T^{11} - 54T^{10} + 155T^9 - 285T^8 + 342T^7 - 252T^6 + \right $  | 1      | 2         |
|       | $78T^5 + 45T^4 - 65T^3 + 34T^2 - 9T + 1)/(-T + 1)^{12}$  |        |           |
| 190   | $\left  (-T^{12} + 12T^{11} - 64T^{10} + 200T^9 - 405T^8 + 552T^7 - 504T^6 + \right $  | 2      | 2         |
|       | $288T^5 - 75T^4 - 20T^3 + 24T^2 - 8T + 1)/(-T + 1)^{12}$   |        |           |
| 1289  | $\left  (T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 - 120T^6 -$ | 1      | 2         |
|       | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{12}$  |        |           |
| 33    | $\left  (T^{11} - 12T^{10} + 62T^9 - 183T^8 + 342T^7 - 420T^6 + 336T^5 - 185T^6 + 185T^$ | 3      | 3         |
|       | $162T^4 + 33T^3 + 8T^2 - 6T + 1)/(-T + 1)^{12}$  |        |           |

|           |        | $\leftarrow$ Continued from previous   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 1         | 3      | $(-2T^{12} + 21T^{11} - 99T^{10} + 275T^9 - 495T^8 + 594T^7 - 462T^6 +$  | 232                |
|           |        | $198T^5 - 55T^3 + 33T^2 - 9T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 3      | $(2T^{11} - 19T^{10} + 80T^9 - 195T^8 + 300T^7 - 294T^6 + 168T^5 -$  | 96                 |
|           |        | $30T^4 - 30T^3 + 25T^2 - 8T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^9$   | 97                 |
| 3         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^9$  | 402                |
| 3         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^9$   | 1249               |
| 4         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^7$  | 37                 |
| 3         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^7$  | 888                |
| 1         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^7$   | 1670               |
| 3         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^7$   | 348                |
| 2         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^7$  | 1115               |
| 1         | 1      | $(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 -$   | 3149               |
|           |        | $9T+1)/(-T+1)^{10}$  |                    |
| 2         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 5758               |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 2      | $T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 +$   | 1591               |
|           |        | $(7T+1)/(-T+1)^{10}$   |                    |
| 3         | 2      | $T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^5 - 56T^5 + 14T^5 - 57T^5 +$   | 341                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 3      | $\left  (-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + \frac{1}{2}T^4 + \frac{1}{2}T^3 + \frac{1}{2}T^4 + \frac{1}{$ | 265                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^{10}$  | 22                 |
| 4         | 2      | $(T^9 - 8T^8 + 29T^7 - 61T^6 + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + 70T^5 - 61T^4 + 23T^5 - 61T^4 + 23T^5 - 61T^5 $   | 6                  |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)$  | 101                |
|           |        | $1)^{10}$  |                    |
| 4         | 1      | $(T^2 - 2T + 1)/(-T + 1)^6$  | 152                |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$  | 258                |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 5      | $(-T^{16} + 19T^{15} - 160T^{14} + 805T^{13} - 2730T^{12} + 6643T^{11} -$  | 7                  |
|           |        | $12012T^{10} + 16445T^9 - 17160T^8 + 13585T^7 - 8008T^6 +$   |                    |
|           |        | $3367T^5 - 910T^4 + 105T^3 + 20T^2 - 9T + 1)/(-T + 1)^{16}$  |                    |
| 1         | 5      | $\left(-4T^{16} + 59T^{15} - 405T^{14} + 1715T^{13} - 5005T^{12} + 10647T^{11} - 405T^{12} + 100000000000000000000000000000000000$ | 26                 |
|           |        | $17017T^{10} + 20735T^9 - 19305T^8 + 13585T^7 - 7007T^6 +$   |                    |
|           |        | $2457T^5 - 455T^4 - 35T^3 + 45T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 0         | 1      | $(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 -$  | 4682               |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{10}$  |                    |
| 3         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^{10}$   | 370                |
| 2         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$   | 302                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^8$   | 131                |
| 4         | 4      | $(3T^5 - 11T^4 + 14T^3 - 6T^2 - T + 1)/(-T + 1)^8$   | 1                  |
| 4         | 2      | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^8$   | 40                 |
| 3         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^8$  | 636                |
| 3         | 1      | $(T^7 - 6T^6 + 14T^5 - 15T^4 + 5T^3 + 4T^2 - 4T + 1)/(-T + 1)^8$   | 130                |
| 3         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^8$   | 206                |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$   | 1741               |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$  | 860                |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$  | 369                |
| 3         | 5      | $\left(-4 T^{10}+35 T^9-135 T^8+300 T^7-420 T^6+378 T^5-210 T^4+\right.$   | 41                 |
|           |        | $60T^3 - 5T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 7      | $(-T^{11} + 4T^{10} + 8T^9 - 87T^8 + 258T^7 - 420T^6 + 420T^5 -$   | 9                  |
|           |        | $258T^4 + 87T^3 - 8T^2 - 4T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 6      | $(-T^{11} + 5T^{10} - T^9 - 51T^8 + 174T^7 - 294T^6 + 294T^5 - 174T^4 +$   | 13                 |
|           |        | $51T^3 + T^2 - 5T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 2      | $(T^{11} - 11T^{10} + 53T^9 - 147T^8 + 258T^7 - 294T^6 + 210T^5 -$   | 90                 |
|           |        | $78T^4 - 3T^3 + 17T^2 - 7T + 1)/(-T + 1)^{12}$   |                    |
| 4         | 6      | $(-T^7 + T^6 + 9T^5 - 25T^4 + 25T^3 - 9T^2 - T + 1)/(-T + 1)^9$  | 6                  |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$  | 235                |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^9$   | 1676               |
| 2         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^9$  | 1571               |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$  | 38                 |
| 2         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^9$  | 7060               |
| 3         | 1      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$   | 34                 |
|           |        | $1)^9$   |                    |
| 4         | 3      | $(T^7 - 8T^6 + 24T^5 - 35T^4 + 25T^3 - 6T^2 - 2T + 1)/(-T + 1)^9$  | 1                  |
| 4         | 6      | $(5T^9 - 39T^8 + 132T^7 - 252T^6 + 294T^5 - 210T^4 + 84T^3 -$  | 1                  |
|           |        | $12T^2 - 3T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 4      | $(-3T^{10} + 26T^9 - 99T^8 + 216T^7 - 294T^6 + 252T^5 - 126T^4 +$  | 13                 |
|           |        | $24T^3 + 9T^2 - 6T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 5      | $(4T^{15} - 55T^{14} + 350T^{13} - 1365T^{12} + 3640T^{11} - 7007T^{10} +$   | 13                 |
|           |        | $10010T^9 - 10725T^8 + 8580T^7 - 5005T^6 + 2002T^5 - 455T^4 +$   |                    |
|           |        | $35T^2 - 10T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 4      | $(3T^{15} - 41T^{14} + 259T^{13} - 1001T^{12} + 2639T^{11} - 5005T^{10} +$   | 54                 |
|           |        | $7007T^9 - 7293T^8 + 5577T^7 - 3003T^6 + 1001T^5 - 91T^4 -$  |                    |
|           |        | $91T^3 + 49T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{14}+12T^{13}-65T^{12}+208T^{11}-429T^{10}+572T^{9}-429T^{8}+\right.$  | 59                 |
|           |        | $429T^6 - 572T^5 + 429T^4 - 208T^3 + 65T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 8      | $\left(-T^{15}+7T^{14}-T^{13}-169T^{12}+923T^{11}-2717T^{10}+5291T^{9}-\right.$  | 2                  |
|           |        | $7293T^8 + 7293T^7 - 5291T^6 + 2717T^5 - 923T^4 + 169T^3 + T^2 -$  |                    |
|           |        | $(7T+1)/(-T+1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{16} + 16T^{15} - 120T^{14} + 558T^{13} - 1794T^{12} + 4212T^{11} - 120T^{14} + 120$ | 11                 |
|           |        | $7436T^{10} + 10010T^9 - 10296T^8 + 8008T^7 - 4576T^6 + 1794T^5 -$   |                    |
|           |        | $390T^4 - 12T^3 + 36T^2 - 10T + 1)/(-T + 1)^{16}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 2      | $(2T^{15} - 29T^{14} + 194T^{13} - 793T^{12} + 2210T^{11} - 4433T^{10} +$  | 8                  |
|           |        | $6578T^9 - 7293T^8 + 6006T^7 - 3575T^6 + 1430T^5 - 299T^4 -$   |                    |
|           |        | $26T^3 + 37T^2 - 10T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 3      | $(-3T^{16} + 47T^{15} - 342T^{14} + 1533T^{13} - 4732T^{12} + 10647T^{11} -$   | 3                  |
|           |        | $18018T^{10} + 23309T^9 - 23166T^8 + 17589T^7 - 10010T^6 +$  |                    |
|           |        | $4095T^5 - 1092T^4 + 133T^3 + 18T^2 - 9T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $(T^{15} - 15T^{14} + 103T^{13} - 429T^{12} + 1209T^{11} - 2431T^{10} +$   | 28                 |
|           |        | $3575T^9 - 3861T^8 + 3003T^7 - 1573T^6 + 429T^5 + 65T^4 - 117T^3 +$  |                    |
|           |        | $51T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{16} + 17T^{15} - 134T^{14} + 649T^{13} - 2158T^{12} + 5213T^{11} - 134T^{12} + 5213T^{11} - 134T^{12} + 13$ | 2                  |
|           |        | $9438T^{10} + 13013T^9 - 13728T^8 + 11011T^7 - 6578T^6 + 2795T^5 -$  |                    |
|           |        | $754T^4 + 79T^3 + 22T^2 - 9T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$  | 107                |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$  | 1133               |
| 4         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^8$  | 77                 |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$   | 3236               |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 2829               |
|           |        | $1)/(-T+1)^8$  |                    |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$  | 2789               |
| 4         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^9$  | 489                |
| 4         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^9$   | 188                |
| 2         | 3      | $\left(-T^{12} + 13T^{11} - 74T^{10} + 245T^9 - 525T^8 + 762T^7 - 756T^6 + \right)$  | 13                 |
|           |        | $498T^5 - 195T^4 + 25T^3 + 14T^2 - 7T + 1)/(-T + 1)^{12}$  |                    |
| 1         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 11708              |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$   | 66                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$   | 2232               |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$  | 840                |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 1      | $(-2T^{12} + 22T^{11} - 109T^{10} + 320T^9 - 615T^8 + 804T^7 - 714T^6 +$   | 16                 |
|           |        | $408T^5 - 120T^4 - 10T^3 + 23T^2 - 8T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$   | 18                 |
|           |        | $1)/(-T+1)^{12}$   |                    |
| 0         | 2      | $(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 -$  | 154                |
|           |        | $8T+1)/(-T+1)^9$   |                    |
| 1         | 2      | $(-T^{10} + 10T^9 - 43T^8 + 104T^7 - 154T^6 + 140T^5 - 70T^4 +$  | 54                 |
|           |        | $8T^3 + 11T^2 - 6T + 1)/(-T + 1)^9$  |                    |
| 0         | 1      | $(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 -$   | 2872               |
|           |        | $9T+1)/(-T+1)^9$   |                    |
| 3         | 3      | $(T^8 - 5T^7 + 10T^6 - 11T^5 + 10T^4 - 11T^3 + 10T^2 - 5T +$   | 108                |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 1      | $T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 13T^2 - 6T + 12T^2 - 12T^4 - - 12$     | 673                |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 4      | $(T^8 - 4T^7 + 4T^6 + 4T^5 - 10T^4 + 4T^3 + 4T^2 - 4T + 1)/(-T + 1)^9$   | 148                |
| 1         | 2      | $\left(T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 - 14T^4 - 28T^3 + 20T^4 - 14T^4 - 28T^3 + 20T^4 - 14T^4 - 14T^4$ | 983                |
|           |        | $(7T+1)/(-T+1)^9$  |                    |
| 0         | 3      | $\left(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 - 126T^6 + 126T^6 + 126T^6 - 42T^4 - 126T^6 + 126T^6 + 126T^6 - 42T^4 - 126T^6 + 126T^6 - 42T^6 - 126T^6 + 126T^6 - 126$ | 70                 |
|           |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^9$   |                    |
| 2         | 2      | $T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 34T^5 - 56T^4 + 14T^5 - 56T^5 + 14T^5 - 57T^5 +$     | 261                |
|           |        | $1)/(-T+1)^9$  |                    |
| 4         | 2      | $(T^8 - 5T^7 + 8T^6 - T^5 - 10T^4 + 9T^3 - 3T + 1)/(-T + 1)^9$   | 21                 |
| 2         | 3      | $\left(T^9 - 10T^8 + 41T^7 - 91T^6 + 119T^5 - 91T^4 + 35T^3 - T^2 - 100T^4 + 110T^5 - 110T^4 + 110T^5 - 110T^4 + 110T^5 - 110T^6 + 1$ | 54                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 4         | 3      | $\left  (2T^8 - 11T^7 + 22T^6 - 16T^5 - 5T^4 + 13T^3 - 4T^2 - 2T + 18T^4 - 11T^4 + 18T^4 - 18T^4 + 18T^4 $ | 5                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)^9$  | 25                 |
| 2         | 1      | $\left(-T^{10} + 10T^9 - 44T^8 + 111T^7 - 175T^6 + 175T^5 - 105T^4 + 110T^7 - 105T^4 + 110T^7 - 105T^4 + 110T^7 - 105T^6 + 100T^7 - 100T^7 + 100T^7 - 100T^7 + 100T^7 - $ | 23                 |
|           |        | $29T^3 + 4T^2 - 5T + 1)/(-T + 1)^9$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

| Dimension Degree Hilbert Series   3 3 $(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$  | Count  |
|---|--------|
| 3 $3 (-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$  | Course |
|   | 26     |
| $1)/(-T+1)^9$   |        |
| 4 2 $(2T^7 - 13T^6 + 34T^5 - 45T^4 + 30T^3 - 7T^2 - 2T + 1)/(-T + 1)^9$   | 3      |
| $3 \qquad \qquad 5 \qquad (T^8 - 3T^7 - 2T^6 + 19T^5 - 30T^4 + 19T^3 - 2T^2 - 3T + 1)/(-T + 1)^9$   | 9      |
| 3 $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$  | 6      |
| 4 1 $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^6$   | 4      |
| 2 $3 (2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^6$   | 14     |
| 2 $2 (T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$  | 20     |
| 4 2 $(T^3 - T^2 - T + 1)/(-T + 1)^6$  | 11     |
| 4 1 $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^7$   | 59     |
| 4 1 $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^7$   | 24     |
| $3 \qquad \qquad 1 \qquad (T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T + 17T^4 - $ | 34     |
| $1)/(-T+1)^{10}$  |        |
| 4 1 $(-T+1)(-4)$  | 2      |
| 2 1 $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$   | 8      |
| 1 1 $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$   | 52     |
| 0 1 $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$   | 8      |
| 1 $3 (2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$  | 238    |
| $1)/(-T+1)^9$   |        |
| $2 	 1 	 (2T^9 - 16T^8 + 55T^7 - 105T^6 + 119T^5 - 77T^4 + 21T^3 + 5T^2 - 105T^6 + 119T^5 - 105T^6 + 119T^6 + $                | 101    |
| $5T+1)/(-T+1)^9$  |        |
| $3 \qquad \qquad 6 \qquad (2T^8 - 9T^7 + 13T^6 - T^5 - 15T^4 + 13T^3 - T^2 - 3T + 1)/(-T + 1)^9$  | 39     |
| $2 \qquad \qquad 2 \qquad \qquad (-3T^{16} + 46T^{15} - 328T^{14} + 1442T^{13} - 4368T^{12} + 9646T^{11} -$   | 10     |
| $16016T^{10} + 20306T^9 - 19734T^8 + 14586T^7 - 8008T^6 +$  |        |
| $3094T^5 - 728T^4 + 42T^3 + 32T^2 - 10T + 1)/(-T + 1)^{16}$   |        |
| $2 	 (5T^{15} - 69T^{14} + 441T^{13} - 1729T^{12} + 4641T^{11} - 9009T^{10} +$  | 8      |
| $13013T^9 - 14157T^8 + 11583T^7 - 7007T^6 + 3003T^5 - 819T^4 +$   |        |
| $91T^3 + 21T^2 - 9T + 1)/(-T + 1)^{16}$   |        |

| $\leftarrow$ Continued from previous |        |  | us page            |
|--------------------------------------|--------|--|--------------------|
| Dimension                            | Degree | Hilbert Series   | Count              |
| 3                                    | 2      | $(4T^{15} - 57T^{14} + 376T^{13} - 1521T^{12} + 4212T^{11} - 8437T^{10} +$ | 2                  |
|                                      |        | $12584T^9 - 14157T^8 + 12012T^7 - 7579T^6 + 3432T^5 - 1027T^4 +$           |                    |
|                                      |        | $156T^3 + 9T^2 - 8T + 1)/(-T + 1)^{16}$                                    |                    |
| 3                                    | 2      | $(-T^{16} + 18T^{15} - 148T^{14} + 740T^{13} - 2522T^{12} + 6214T^{11} -$  | 1                  |
|                                      |        | $11440T^{10} + 16016T^9 - 17160T^8 + 14014T^7 - 8580T^6 +$                 |                    |
|                                      |        | $3796T^5 - 1118T^4 + 170T^3 + 8T^2 - 8T + 1)/(-T + 1)^{16}$                |                    |
| 3                                    | 10     | $(-2T^{15} + 19T^{14} - 66T^{13} + 39T^{12} + 494T^{11} - 2145T^{10} +$    | 3                  |
|                                      |        | $4862T^9 - 7293T^8 + 7722T^7 - 5863T^6 + 3146T^5 - 1131T^4 +$              |                    |
|                                      |        | $234T^3 - 11T^2 - 6T + 1)/(-T + 1)^{16}$                                   |                    |
| 4                                    | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^8$                                  | 357                |
| 4                                    | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^8$                    | 179                |
| 3                                    | 2      | $(-T^{16} + 15T^{15} - 106T^{14} + 467T^{13} - 1430T^{12} + 3211T^{11} -$  | 9                  |
|                                      |        | $5434T^{10} + 7007T^9 - 6864T^8 + 5005T^7 - 2574T^6 + 793T^5 -$            |                    |
|                                      |        | $26T^4 - 103T^3 + 50T^2 - 11T + 1)/(-T + 1)^{16}$                          |                    |
| 4                                    | 6      | $(T^{14} - 8T^{13} + 19T^{12} + 32T^{11} - 319T^{10} + 968T^9 - 1749T^8 +$ | 3                  |
|                                      |        | $2112T^7 - 1749T^6 + 968T^5 - 319T^4 + 32T^3 + 19T^2 - 8T +$               |                    |
|                                      |        | $1)/(-T+1)^{16}$   |                    |
| 3                                    | 2      | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^7$                 | 5                  |
| 4                                    | 1      | $(2T^5 - 8T^4 + 11T^3 - 5T^2 - T + 1)/(-T + 1)^7$                          | 2                  |
| 2                                    | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^7$           | 20                 |
| 3                                    | 4      | $(T^6 - 2T^5 - T^4 + 4T^3 - T^2 - 2T + 1)/(-T + 1)^7$                      | 15                 |
| 3                                    | 3      | $(T^6 - 3T^5 + 3T^4 - 2T^3 + 3T^2 - 3T + 1)/(-T + 1)^7$                    | 42                 |
| 2                                    | 1      | $(T^7 - 6T^6 + 14T^5 - 15T^4 + 5T^3 + 4T^2 - 4T + 1)/(-T + 1)^7$           | 76                 |
| 2                                    | 4      | $(3T^{11} - 29T^{10} + 125T^9 - 315T^8 + 510T^7 - 546T^6 + 378T^5 -$       | 11                 |
|                                      |        | $150T^4 + 15T^3 + 15T^2 - 7T + 1)/(-T + 1)^{12}$                           |                    |
| 4                                    | 6      | $(T^{10} - 4T^9 - 3T^8 + 48T^7 - 126T^6 + 168T^5 - 126T^4 + 48T^3 -$       | 2                  |
|                                      |        | $3T^2 - 4T + 1)/(-T + 1)^{12}$   |                    |
| 3                                    | 2      | $(2T^{11} - 21T^{10} + 98T^9 - 267T^8 + 468T^7 - 546T^6 + 420T^5 -$        | 2                  |
|                                      |        | $198T^4 + 42T^3 + 7T^2 - 6T + 1)/(-T + 1)^{12}$                            |                    |
|                                      |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 4         | 2      | $(-2T^8 + 15T^7 - 47T^6 + 79T^5 - 75T^4 + 37T^3 - 5T^2 - 3T +$   | 2                  |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 4      | $(3T^5 - 11T^4 + 14T^3 - 6T^2 - T + 1)/(-T + 1)^7$   | 5                  |
| 2         | 1      | $(2T^7 - 12T^6 + 29T^5 - 35T^4 + 20T^3 - 2T^2 - 3T + 1)/(-T + 1)^7$  | 36                 |
| 1         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^7$   | 396                |
| 3         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^7$  | 21                 |
| 4         | 1      | $(T^6 - 3T^5 + 2T^4 + T^3 - 2T + 1)/(-T + 1)^7$  | 6                  |
| 1         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^7$  | 48                 |
| 3         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^9$  | 10                 |
| 4         | 3      | $(-T^8+6T^7-17T^6+29T^5-30T^4+16T^3-T^2-3T+1)/(-T+1)$  | 1                  |
|           |        | 1)9  |                    |
| 3         | 8      | $(3T^8 - 14T^7 + 22T^6 - 6T^5 - 20T^4 + 22T^3 - 6T^2 - 2T +$   | 9                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 4         | 3      | $(-T^7 + 4T^6 - 6T^5 + 5T^4 - 5T^3 + 6T^2 - 4T + 1)/(-T + 1)^9$  | 1                  |
| 2         | 2      | $\left(2T^9 - 17T^8 + 62T^7 - 126T^6 + 154T^5 - 112T^4 + 42T^3 - 2T^2 - 127T^4 + 42T^3 - 2T^2 - 127T^4 + 42T^3 - 2T^2 - 127T^4 + 127$ | 18                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 2         | 5      | $(-4T^8 + 27T^7 - 77T^6 + 119T^5 - 105T^4 + 49T^3 - 7T^2 - 3T +$   | 1                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 4         | 3      | $\left  (-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T + T^4 + 3T^4 - 3T^4 + 3T$ | 19                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^{10}$   | 42                 |
| 4         | 6      | $ (T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + T^6 + 34T^3 - 8T^2 - 2T + 1) / (-T + T^6 + 34T^4 - 2T^4 $     | 9                  |
|           |        | $1)^{10}$  |                    |
| 4         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^7$   | 3                  |
| 0         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^7$  | 28                 |
| 2         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^7$  | 225                |
| 4         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^9$   | 6                  |
| 1         | 2      | $\left(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 - 42T^6 + 42T^4 - 48T^4 - 4$ | 149                |
|           |        | $8T+1)/(-T+1)^{10}$  |                    |
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|-----------|--------|--|--------------------------------------|
| Dimension | Degree | Hilbert Series   | Count                                |
| 2         | 1      | $\left  (-T^{10} + 9T^9 - 35T^8 + 76T^7 - 98T^6 + 70T^5 - 14T^4 - 20T^3 + \right $   | 17                                   |
|           |        | $19T^2 - 7T + 1)/(-T + 1)^{10}$  |                                      |
| 2         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^7$   | 30                                   |
| 4         | 2      | $(2T^8 - 10T^7 + 17T^6 - 6T^5 - 15T^4 + 18T^3 - 5T^2 - 2T +$   | 6                                    |
|           |        | $1)/(-T+1)^9$  |                                      |
| 4         | 3      | $(-2T^{10} + 20T^9 - 87T^8 + 216T^7 - 336T^6 + 336T^5 - 210T^4 +$  | 3                                    |
|           |        | $72T^3 - 6T^2 - 4T + 1)/(-T + 1)^{12}$   |                                      |
| 3         | 4      | $(-3T^{14} + 38T^{13} - 221T^{12} + 780T^{11} - 1859T^{10} + 3146T^{9} -$  | 1                                    |
|           |        | $3861T^8 + 3432T^7 - 2145T^6 + 858T^5 - 143T^4 - 52T^3 + 39T^2 -$  |                                      |
|           |        | $10T+1)/(-T+1)^{16}$   |                                      |
| 2         | 2      | $(-T^{10} + 10T^9 - 43T^8 + 104T^7 - 154T^6 + 140T^5 - 70T^4 +$  | 4                                    |
|           |        | $8T^3 + 11T^2 - 6T + 1)/(-T + 1)^{10}$   |                                      |
| 4         | 5      | $(T^6 - T^5 - 5T^4 + 10T^3 - 5T^2 - T + 1)/(-T + 1)^8$   | 2                                    |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$  | 48                                   |
| 2         | 6      | $(-T^{16} + 20T^{15} - 174T^{14} + 896T^{13} - 3094T^{12} + 7644T^{11} -$  | 2                                    |
|           |        | $14014T^{10} + 19448T^9 - 20592T^8 + 16588T^7 - 10010T^6 +$  |                                      |
|           |        | $4368T^5 - 1274T^4 + 196T^3 + 6T^2 - 8T + 1)/(-T + 1)^{16}$  |                                      |
| 3         | 2      | $(3T^{15} - 43T^{14} + 285T^{13} - 1157T^{12} + 3211T^{11} - 6435T^{10} +$   | 1                                    |
|           |        | $9581T^9 - 10725T^8 + 9009T^7 - 5577T^6 + 2431T^5 - 663T^4 +$  |                                      |
|           |        | $65T^3 + 23T^2 - 9T + 1)/(-T + 1)^{16}$  |                                      |
| 2         | 1      | $(-2T^{16} + 30T^{15} - 209T^{14} + 896T^{13} - 2639T^{12} + 5642T^{11} -$   | 2                                    |
|           |        | $9009T^{10} + 10868T^9 - 9867T^8 + 6578T^7 - 3003T^6 + 728T^5 +$   |                                      |
|           |        | $91T^4 - 154T^3 + 61T^2 - 12T + 1)/(-T + 1)^{16}$  |                                      |
| 4         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^6$   | 1                                    |
| 1         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^6$   | 4                                    |
| 1         | 1      | $(-T^{10} + 9T^9 - 35T^8 + 76T^7 - 98T^6 + 70T^5 - 14T^4 - 20T^3 +$  | 34                                   |
|           |        | $19T^2 - 7T + 1)/(-T + 1)^9$   |                                      |
| 3         | 2      | $(T^9 - 8T^8 + 29T^7 - 61T^6 + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^3 + 72 - 4T + 79T^5 - 61T^4 + 23T^5 - 61T^4 + 23T^5 - 61T^4 + 23T^5 - 61T^5 - 61$ | 11                                   |
|           |        | $1)/(-T+1)^9$  |                                      |
|           |        | $(-I + 1)^{\sigma}$ Continued on next  | $\frac{ }{\text{page} \rightarrow }$ |

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|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 2         | 2      | $(-T^{11} + 9T^{10} - 35T^9 + 75T^8 - 92T^7 + 56T^6 - 20T^4 + 5T^3 +$  | 7       |
|           |        | $7T^2 - 5T + 1)/(-T + 1)^9$  |         |
| 3         | 5      | $(4T^7 - 23T^6 + 54T^5 - 65T^4 + 40T^3 - 9T^2 - 2T + 1)/(-T + 1)^9$  | 4       |
| 3         | 1      | $(T^9 - 8T^8 + 28T^7 - 55T^6 + 64T^5 - 41T^4 + 8T^3 + 7T^2 - 5T +$   | 38      |
|           |        | $1)/(-T+1)^9$  |         |
| 3         | 1      | $(T^9 - 9T^8 + 35T^7 - 76T^6 + 99T^5 - 76T^4 + 29T^3 - 4T +$   | 5       |
|           |        | $1)/(-T+1)^9$  |         |
| 4         | 5      | $(-T^7 + 2T^6 + 4T^5 - 15T^4 + 15T^3 - 4T^2 - 2T + 1)/(-T + 1)^9$  | 1       |
| 1         | 6      | $(-5T^{16} + 74T^{15} - 510T^{14} + 2170T^{13} - 6370T^{12} + 13650T^{11} -$   | 1       |
|           |        | $22022T^{10} + 27170T^9 - 25740T^8 + 18590T^7 - 10010T^6 +$  |         |
|           |        | $3822T^5 - 910T^4 + 70T^3 + 30T^2 - 10T + 1)/(-T + 1)^{16}$  |         |
| 3         | 6      | $(-3T^5 + 7T^4 - 4T^3 - T + 1)/(-T + 1)^6$   | 1       |
| 3         | 3      | $(-T^5 + 2T^4 - T^3 + T^2 - 2T + 1)/(-T + 1)^6$  | 2       |
| 4         | 1      | $(-2T^5 + 5T^4 - 3T^3 - T + 1)/(-T + 1)^6$   | 1       |
| 2         | 6      | $(3T^6 - 10T^5 + 11T^4 - 4T^3 + T^2 - 2T + 1)/(-T + 1)^6$  | 2       |
| 2         | 3      | $(T^6 - 3T^5 + 3T^4 - 2T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$  | 4       |
| 3         | 2      | $(-2T^{16} + 30T^{15} - 211T^{14} + 922T^{13} - 2795T^{12} + 6214T^{11} -$   | 1       |
|           |        | $10439T^{10} + 13442T^9 - 13299T^8 + 10010T^7 - 5577T^6 +$   |         |
|           |        | $2158T^5 - 481T^4 + 2T^3 + 35T^2 - 10T + 1)/(-T + 1)^{16}$   |         |
| 3         | 6      | $\left(-T^9 + 3T^8 + 6T^7 - 42T^6 + 84T^5 - 84T^4 + 42T^3 - 6T^2 - 42T^4 + 42T^4 - 42T^4 $ | 1       |
|           |        | $3T+1)/(-T+1)^{10}$  |         |
| 4         | 2      | $(T^5 - 5T^4 + 8T^3 - 4T^2 - T + 1)/(-T + 1)^7$  | 3       |
| 2         | 1      | $(-T^8 + 7T^7 - 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + T^3 + T^2 - T^4 + T^3 + T^4 $     | 23      |
|           |        | $1)^{8}$   |         |
| 4         | 1      | $(-2T^6 + 10T^5 - 19T^4 + 16T^3 - 4T^2 - 2T + 1)/(-T + 1)^8$   | 1       |
| 3         | 2      | $(-T^{12} + 11T^{11} - 56T^{10} + 173T^9 - 357T^8 + 510T^7 - 504T^6 +$   | 4       |
|           |        | $330T^5 - 123T^4 + 7T^3 + 16T^2 - 7T + 1)/(-T + 1)^{12}$   |         |
|           |        | Continued on next  | page –  |

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|-------------------------------------|--------|---|---------|
| Dimension                           | Degree | Hilbert Series  | Count   |
| 2                                   | 4      | $(-2T^{16} + 33T^{15} - 251T^{14} + 1169T^{13} - 3731T^{12} + 8645T^{11} -$ | 1       |
|                                     |        | $15015T^{10} + 19877T^9 - 20163T^8 + 15587T^7 - 9009T^6 +$                  |         |
|                                     |        | $3731T^5 - 1001T^4 + 119T^3 + 19T^2 - 9T + 1)/(-T + 1)^{16}$                |         |
| 3                                   | 2      | $(-T^{12} + 12T^{11} - 66T^{10} + 218T^9 - 477T^8 + 720T^7 - 756T^6 +$      | 1       |
|                                     |        | $540T^5 - 243T^4 + 52T^3 + 6T^2 - 6T + 1)/(-T + 1)^{12}$                    |         |

# $5 \quad \underline{N=6}$

#### 5.1 E=6

Table 20: Quivers with 6 Vertices and 6 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

### 5.2 E=7

Table 21: Quivers with 6 Vertices and 7 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 3     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 6     |

Table 22: Quivers with 6 Vertices and 8 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | (-T+1)(-2)                                | 18    |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 45    |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 42    |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 69    |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 127   |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 232   |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 10    |
| 1         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^4$       | 4     |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$       | 1     |

Table 23: Quivers with 6 Vertices and 9 Edges

| Dimension           | Degree | Hilbert Series  | Count |
|---------------------|--------|---|-------|
| 1                   | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                           | 1371  |
| 2                   | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                 | 603   |
| 3                   | 1      | (-T+1)(-3)  | 30    |
| 3                   | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$                                    | 50    |
| 3                   | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 302   |
| 2                   | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 160   |
| 2                   | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 1648  |
| 2                   | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                    | 335   |
| 3                   | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$                          | 6     |
| 3                   | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                     | 72    |
| 3                   | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                 | 156   |
| 3                   | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 82    |
| 1                   | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 2164  |
| 0                   | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 3996  |
| 1                   | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$                   | 96    |
| 1                   | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$                                 | 101   |
| 0                   | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                           | 236   |
| 0                   | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$        | 7972  |
|                     |        | $1)/(-T+1)^8$   |       |
| 2                   | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$          | 1037  |
| 2                   | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$ | 234   |
| 1                   | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$ | 4538  |
| 3                   | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$    | 126   |
| 2                   | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$      | 1078  |
| 1                   | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                 | 717   |
| Continued on next p |        |   |       |

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|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$  | 312     |
| 2         | 1      | $(-T^8 + 7T^7 - 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + T^3 + T^2 - T^2 + T^2 + T^2 - T^2 + T^2 + T^2 - T^2 + T^2 $     | 166     |
|           |        | $(1)^8$  |         |
| 0         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$  | 782     |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$   | 4       |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$  | 39      |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$  | 14      |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$   | 68      |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$  | 10      |
| 2         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$  | 5       |
| 2         | 2      | $\left(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T + 4T^4 + 16T^3 + 2T^2 - 4T + 4T^4 + 16T^3 + 2T^2 - 4T + 4T^4 + 16T^3 + 2T^2 - 4T + 16T^3 + 2T^2 - 4T^2 + 16T^2 + 1$ | 11      |
|           |        | $1)/(-T+1)^8$  |         |
| 2         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^8$  | 4       |
| 3         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$   | 21      |
| 3         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^5$   | 1       |
| 0         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^5$  | 32      |
| 1         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$  | 9       |
|           |        | $1)/(-T+1)^8$  |         |
| 2         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^6$  | 16      |

## 5.5 E=10

Table 24: Quivers with 6 Vertices and 10 Edges

| Dimension | Degree | Hilbert Series                                  | Count              |
|-----------|--------|---|--------------------|
| 4         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^7$             | 432                |
| 4         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^7$ | 184                |
| 3         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^7$       | 4078               |
|           |        | Continued on next                               | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page                        |
|-----------|--------|--|--------------------------------|
| Dimension | Degree | Hilbert Series   | Count                          |
| 2         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^7$  | 7270                           |
| 4         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^7$   | 30                             |
| 3         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^7$  | 48                             |
| 1         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^7$   | 10998                          |
| 3         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^7$   | 1360                           |
| 2         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^7$  | 1397                           |
| 2         | 1      | $(T^7 - 6T^6 + 14T^5 - 15T^4 + 5T^3 + 4T^2 - 4T + 1)/(-T + 1)^7$   | 368                            |
| 0         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^7$  | 2010                           |
| 3         | 3      | $(T^6 - 3T^5 + 3T^4 - 2T^3 + 3T^2 - 3T + 1)/(-T + 1)^7$  | 152                            |
| 1         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^7$   | 1514                           |
| 1         | 1      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$   | 92                             |
|           |        | $(1)^7$  |                                |
| 2         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^7$   | 86                             |
| 4         | 1      | $(T^6 - 3T^5 + 2T^4 + T^3 - 2T + 1)/(-T + 1)^7$  | 33                             |
| 4         | 2      | $(T^5 - 5T^4 + 8T^3 - 4T^2 - T + 1)/(-T + 1)^7$  | 18                             |
| 4         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^7$  | 206                            |
| 3         | 4      | $(3T^5 - 11T^4 + 14T^3 - 6T^2 - T + 1)/(-T + 1)^7$   | 11                             |
| 2         | 1      | $(2T^7 - 12T^6 + 29T^5 - 35T^4 + 20T^3 - 2T^2 - 3T + 1)/(-T + 1)^7$  | 89                             |
| 3         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^7$  | 76                             |
| 1         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^7$  | 127                            |
| 0         | 1      | $\left(T^{12} - 12T^{11} + 66T^{10} - 220T^9 + 495T^8 - 792T^7 + 924T^6 - 495T^8 - 792T^7 + 924T^6 - 495T^8 - 792T^7 + 924T^6 - 927T^7 + 924T^7 + 924T$ | 14439                          |
|           |        | $792T^5 + 495T^4 - 220T^3 + 66T^2 - 12T + 1)/(-T + 1)^{12}$  |                                |
| 2         | 1      | $\left(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 - 120T^4 - 120T^4 - 120T^4 - 120T^4 - 120T^4 - 120T^6 - 1$ | 3600                           |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{12}$  |                                |
| 3         | 3      | $\left(T^{11} - 12T^{10} + 62T^9 - 183T^8 + 342T^7 - 420T^6 + 336T^5 - 420T^6 + 336T^5 - 420T^6 + 336T^5 - 420T^6 + 336T^6 + 336T^6 - 420T^6 + 336T^6 + 336T^6 + 336T^6 - 420T^6 + 420T^6 $ | 73                             |
|           |        | $162T^4 + 33T^3 + 8T^2 - 6T + 1)/(-T + 1)^{12}$  |                                |
| 1         | 1      | $\left(-T^{11} + 11T^{10} - 55T^9 + 165T^8 - 330T^7 + 462T^6 - 462T^5 + \right)$   | 11178                          |
|           |        | $330T^4 - 165T^3 + 55T^2 - 11T + 1)/(-T + 1)^{12}$   |                                |
|           |        | Continued on next  | $page \rightarrow \overline{}$ |

|                        |        | $\leftarrow$ Continued from previo   | us page |
|------------------------|--------|--|---------|
| Dimension              | Degree | Hilbert Series   | Count   |
| 2                      | 1      | $(-T^{12} + 11T^{11} - 54T^{10} + 155T^9 - 285T^8 + 342T^7 - 252T^6 +$   | 1048    |
|                        |        | $78T^5 + 45T^4 - 65T^3 + 34T^2 - 9T + 1)/(-T + 1)^{12}$  |         |
| 1                      | 3      | $(-2T^{12} + 21T^{11} - 99T^{10} + 275T^9 - 495T^8 + 594T^7 - 462T^6 +$  | 433     |
|                        |        | $198T^5 - 55T^3 + 33T^2 - 9T + 1)/(-T + 1)^{12}$   |         |
| 2                      | 1      | $(-2T^{12} + 22T^{11} - 109T^{10} + 320T^9 - 615T^8 + 804T^7 - 714T^6 +$   | 63      |
|                        |        | $408T^5 - 120T^4 - 10T^3 + 23T^2 - 8T + 1)/(-T + 1)^{12}$  |         |
| 1                      | 2      | $(-T^{12} + 10T^{11} - 44T^{10} + 110T^9 - 165T^8 + 132T^7 - 132T^5 +$   | 3616    |
|                        |        | $165T^4 - 110T^3 + 44T^2 - 10T + 1)/(-T + 1)^{12}$   |         |
| 3                      | 3      | $(2T^{11} - 22T^{10} + 107T^9 - 303T^8 + 552T^7 - 672T^6 + 546T^5 -$   | 2       |
|                        |        | $282T^4 + 78T^3 - 2T^2 - 5T + 1)/(-T + 1)^{12}$  |         |
| 2                      | 2      | $\left(-T^{12} + 12T^{11} - 64T^{10} + 200T^9 - 405T^8 + 552T^7 - 504T^6 + \right)$  | 491     |
|                        |        | $288T^5 - 75T^4 - 20T^3 + 24T^2 - 8T + 1)/(-T + 1)^{12}$   |         |
| 2                      | 2      | $\left(T^{11} - 9T^{10} + 35T^9 - 75T^8 + 90T^7 - 42T^6 - 42T^5 + 90T^4 - 42T^6 -$ | 1623    |
|                        |        | $75T^3 + 35T^2 - 9T + 1)/(-T + 1)^{12}$  |         |
| 2                      | 3      | $\left(-T^{12} + 13T^{11} - 74T^{10} + 245T^9 - 525T^8 + 762T^7 - 756T^6 + \right)$  | 61      |
|                        |        | $498T^5 - 195T^4 + 25T^3 + 14T^2 - 7T + 1)/(-T + 1)^{12}$  |         |
| 3                      | 3      | $\left(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 - 126T^6 + $ | 307     |
|                        |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^{12}$  |         |
| 2                      | 3      | $\left(2T^{11} - 19T^{10} + 80T^9 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 300T^7 - 294T^6 + 168T^5 - 195T^8 + 1000T^7 - 1000T^7 -$ | 195     |
|                        |        | $30T^4 - 30T^3 + 25T^2 - 8T + 1)/(-T + 1)^{12}$  |         |
| 4                      | 3      | $\left  (2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T + 48T^6 + 84T^6 + 84T^6 + 42T^4 + 12T^2 - 6T + 48T^6 + 84T^6 +$ | 42      |
|                        |        | $1)/(-T+1)^{12}$   |         |
| 3                      | 2      | $\left(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 - 42T^6 + 42T^4 - 48T^4 - 4$ | 912     |
|                        |        | $8T+1)/(-T+1)^{12}$  |         |
| 3                      | 2      | $\left(T^{11} - 11T^{10} + 53T^9 - 147T^8 + 258T^7 - 294T^6 + 210T^5 - 147T^8 + 258T^7 - 294T^6 + 210T^6 $ | 182     |
|                        |        | $78T^4 - 3T^3 + 17T^2 - 7T + 1)/(-T + 1)^{12}$   |         |
| 3                      | 2      | $\left  (-T^{12} + 11T^{11} - 56T^{10} + 173T^9 - 357T^8 + 510T^7 - 504T^6 + \right $  | 14      |
|                        |        | $330T^5 - 123T^4 + 7T^3 + 16T^2 - 7T + 1)/(-T + 1)^{12}$   |         |
| Continued on next page |        |  |         |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 4      | $(3T^{11} - 29T^{10} + 125T^9 - 315T^8 + 510T^7 - 546T^6 + 378T^5 -$   | 37                 |
|           |        | $150T^4 + 15T^3 + 15T^2 - 7T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 2      | $(-T^{12} + 12T^{11} - 66T^{10} + 218T^9 - 477T^8 + 720T^7 - 756T^6 +$   | 7                  |
|           |        | $540T^5 - 243T^4 + 52T^3 + 6T^2 - 6T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 4      | $(T^8 - 4T^7 + 4T^6 + 4T^5 - 10T^4 + 4T^3 + 4T^2 - 4T + 1)/(-T + 1)^9$   | 333                |
| 2         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^9$  | 18672              |
| 2         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^9$  | 5025               |
| 1         | 1      | $(-T^{10} + 9T^9 - 35T^8 + 76T^7 - 98T^6 + 70T^5 - 14T^4 - 20T^3 +$  | 82                 |
|           |        | $19T^2 - 7T + 1)/(-T + 1)^9$   |                    |
| 3         | 2      | $(T^9 - 8T^8 + 29T^7 - 61T^6 + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T +$   | 17                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^9$   | 3944               |
| 2         | 1      | $(T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T +$  | 1496               |
|           |        | $1)/(-T+1)^9$  |                    |
| 1         | 1      | $\left(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T + \right)$  | 31829              |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 2      | $(T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 14T^3 + 14$   | 535                |
|           |        | $1)/(-T+1)^9$  |                    |
| 2         | 2      | $\left(-T^{11} + 9T^{10} - 35T^9 + 75T^8 - 92T^7 + 56T^6 - 20T^4 + 5T^3 + \frac{1}{2}T^4 +$ | 21                 |
|           |        | $7T^2 - 5T + 1)/(-T + 1)^9$  |                    |
| 3         | 3      | $\left  (T^8 - 5T^7 + 10T^6 - 11T^5 + 10T^4 - 11T^3 + 10T^2 - 5T + 10T^4 - 11T^3 + 10T^4 - 11T^3 + 10T^4 - 11T^4 + 10T^4 - 10T^4 $   | 273                |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 6      | $(2T^8 - 9T^7 + 13T^6 - T^5 - 15T^4 + 13T^3 - T^2 - 3T + 1)/(-T + 1)^9$  | 84                 |
| 4         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^9$   | 189                |
| 1         | 2      | $\left(T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 - 12T^4 + 20T^4 - 28T^3 + 20T^4 - 12T^4 + 20T^4 - 28T^4 - 28T^4$   | 2610               |
|           |        | $(7T+1)/(-T+1)^9$  |                    |
| 3         | 5      | $(T^8 - 3T^7 - 2T^6 + 19T^5 - 30T^4 + 19T^3 - 2T^2 - 3T + 1)/(-T + 1)^9$   | 22                 |
| 2         | 3      | $\left(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 19T^4 + 1$   | 748                |
|           |        | $1)/(-T+1)^9$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo                                  | us page            |
|-----------|--------|---|--------------------|
| Dimension | Degree | Hilbert Series  | Count              |
| 4         | 3      | $(T^7 - 8T^6 + 24T^5 - 35T^4 + 25T^3 - 6T^2 - 2T + 1)/(-T + 1)^9$   | 7                  |
| 3         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^9$ | 970                |
| 4         | 3      | $(2T^8 - 11T^7 + 22T^6 - 16T^5 - 5T^4 + 13T^3 - 4T^2 - 2T +$        | 10                 |
|           |        | $1)/(-T+1)^9$   |                    |
| 4         | 1      | $(T^2 - 2T + 1)/(-T + 1)^6$   | 786                |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 5088               |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                 | 1272               |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 371                |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 8108               |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 4000               |
| 0         | 2      | $(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 -$ | 719                |
|           |        | $8T+1)/(-T+1)^9$  |                    |
| 0         | 1      | $(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 -$  | 10670              |
|           |        | $9T+1)/(-T+1)^9$  |                    |
| 0         | 3      | $(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 -$    | 374                |
|           |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^9$                                |                    |
| 1         | 2      | $(-T^{10} + 10T^9 - 43T^8 + 104T^7 - 154T^6 + 140T^5 - 70T^4 +$     | 296                |
|           |        | $8T^3 + 11T^2 - 6T + 1)/(-T + 1)^9$                                 |                    |
| 1         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$      | 684                |
|           |        | $1)/(-T+1)^9$   |                    |
| 2         | 3      | $(T^9 - 10T^8 + 41T^7 - 91T^6 + 119T^5 - 91T^4 + 35T^3 - T^2 -$     | 73                 |
|           |        | $4T+1)/(-T+1)^9$  |                    |
| 2         | 1      | $(-T^{10} + 10T^9 - 44T^8 + 111T^7 - 175T^6 + 175T^5 - 105T^4 +$    | 57                 |
|           |        | $29T^3 + 4T^2 - 5T + 1)/(-T + 1)^9$                                 |                    |
| 2         | 1      | $(2T^9 - 16T^8 + 55T^7 - 105T^6 + 119T^5 - 77T^4 + 21T^3 + 5T^2 -$  | 130                |
|           |        | $5T+1)/(-T+1)^9$  |                    |
| 4         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^9$                   | 1152               |
| 4         | 2      | $(2T^8 - 10T^7 + 17T^6 - 6T^5 - 15T^4 + 18T^3 - 5T^2 - 2T +$        | 15                 |
|           |        | $1)/(-T+1)^9$   |                    |
|           |        | Continued on next   | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 2      | $(2T^9 - 17T^8 + 62T^7 - 126T^6 + 154T^5 - 112T^4 + 42T^3 - 2T^2 -$  | 26                 |
|           |        | $4T+1)/(-T+1)^9$   |                    |
| 2         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)^9$  | 82                 |
| 4         | 2      | $(T^8 - 5T^7 + 8T^6 - T^5 - 10T^4 + 9T^3 - 3T + 1)/(-T + 1)^9$   | 60                 |
| 2         | 5      | $(4T^{11} - 39T^{10} + 170T^9 - 435T^8 + 720T^7 - 798T^6 + 588T^5 -$   | 4                  |
|           |        | $270T^4 + 60T^3 + 5T^2 - 6T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^6$   | 96                 |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$   | 16                 |
| 2         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^6$  | 54                 |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$   | 198                |
| 1         | 1      | $(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 -$   | 8406               |
|           |        | $9T+1)/(-T+1)^{10}$  |                    |
| 0         | 1      | $(T^{10} - 10T^9 + 45T^8 - 120T^7 + 210T^6 - 252T^5 + 210T^4 -$  | 11612              |
|           |        | $120T^3 + 45T^2 - 10T + 1)/(-T + 1)^{10}$  |                    |
| 2         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 11197              |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 2      | $\left(T^9 - 7T^8 + 20T^7 - 28T^6 + 14T^5 + 14T^4 - 28T^3 + 20T^2 - 12T^4 + 20T^4 - 28T^3 + 20T^4 - 12T^4 + 20T^4 - 28T^4 - 28T^4$ | 3301               |
|           |        | $(7T+1)/(-T+1)^{10}$   |                    |
| 3         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)$  | 184                |
|           |        | $1)^{10}$  |                    |
| 1         | 2      | $\left(-T^{10} + 8T^9 - 27T^8 + 48T^7 - 42T^6 + 42T^4 - 48T^3 + 27T^2 - 42T^6 + 42T^4 - 48T^4 - 4$ | 482                |
|           |        | $8T+1)/(-T+1)^{10}$  |                    |
| 3         | 2      | $(T^9 - 9T^8 + 34T^7 - 70T^6 + 84T^5 - 56T^4 + 14T^3 + 6T^2 - 5T + 14T^3 + 14$     | 513                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 3      | $\left(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 19T^4 $ | 527                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 2      | $(-T^8 + 6T^7 - 14T^6 + 14T^5 - 14T^3 + 14T^2 - 6T + 1)/(-T + 1)^{10}$   | 731                |
| 2         | 2      | $\left(-T^{10} + 10T^9 - 43T^8 + 104T^7 - 154T^6 + 140T^5 - 70T^4 + 100T^6 + 1$ | 23                 |
|           |        | $8T^3 + 11T^2 - 6T + 1)/(-T + 1)^{10}$   |                    |
|           |        | Continued on next  | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previous   | us page            |
|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 4      | $(3T^9 - 23T^8 + 76T^7 - 140T^6 + 154T^5 - 98T^4 + 28T^3 + 4T^2 -$   | 5                  |
|           |        | $5T+1)/(-T+1)^{10}$  |                    |
| 4         | 2      | $(T^9 - 8T^8 + 29T^7 - 61T^6 + 79T^5 - 61T^4 + 23T^3 + T^2 - 4T +$   | 25                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 2         | 3      | $(2T^9 - 15T^8 + 48T^7 - 84T^6 + 84T^5 - 42T^4 + 12T^2 - 6T +$   | 522                |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^{10}$  | 59                 |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 8439               |
|           |        | $1)/(-T+1)^8$  |                    |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$  | 8675               |
| 3         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^8$  | 3037               |
| 3         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^8$   | 438                |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$  | 2252               |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$  | 1168               |
| 4         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^6$  | 27                 |
| 4         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^6$   | 5                  |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$  | 14                 |
| 1         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^6$   | 20                 |
| 1         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$  | 32                 |
| 4         | 6      | $(T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + 2T^4 - 2T^4$ | 16                 |
|           |        | $1)^{10}$  |                    |
| 3         | 1      | $(T^9 - 8T^8 + 27T^7 - 49T^6 + 49T^5 - 21T^4 - 7T^3 + 13T^2 - 6T +$  | 55                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 0         | 1      | $(T^{16} - 16T^{15} + 120T^{14} - 560T^{13} + 1820T^{12} - 4368T^{11} +$   | 17814              |
|           |        | $8008T^{10} - 11440T^9 + 12870T^8 - 11440T^7 + 8008T^6 - 4368T^5 +$  |                    |
|           |        | $1820T^4 - 560T^3 + 120T^2 - 16T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 2      | $(-T^{16} + 14T^{15} - 90T^{14} + 350T^{13} - 910T^{12} + 1638T^{11} -$  | 3923               |
|           |        | $2002T^{10} + 1430T^9 - 1430T^7 + 2002T^6 - 1638T^5 + 910T^4 -$  |                    |
|           |        | $350T^3 + 90T^2 - 14T + 1)/(-T + 1)^{16}$  |                    |
|           |        | Continued on next  | $page \rightarrow$ |

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|----------|--|--------|-----------|
| Count    | Hilbert Series   | Degree | Dimension |
| 6028     | $\left(-T^{15} + 15T^{14} - 105T^{13} + 455T^{12} - 1365T^{11} + 3003T^{10} - 1000000000000000000000000000000000$  | 1      | 1         |
|          | $5005T^9 + 6435T^8 - 6435T^7 + 5005T^6 - 3003T^5 + 1365T^4 -$  |        |           |
|          | $455T^3 + 105T^2 - 15T + 1)/(-T + 1)^{16}$   |        |           |
| 1213     | $\left(-2T^{16} + 29T^{15} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} - 195T^{14} + 805T^{13} - 2275T^{12} + 4641T^{11} - 195T^{14} + $ | 3      | 1         |
|          | $7007T^{10} + 7865T^9 - 6435T^8 + 3575T^7 - 1001T^6 - 273T^5 +$  |        |           |
|          | $455T^4 - 245T^3 + 75T^2 - 13T + 1)/(-T + 1)^{16}$   |        |           |
| 240      | $\left  (T^{14} - 14T^{13} + 91T^{12} - 364T^{11} + 1001T^{10} - 2002T^9 + 3003T^8 - 100000000000000000000000000000000000$   | 1      | 2         |
|          | $3432T^7 + 3003T^6 - 2002T^5 + 1001T^4 - 364T^3 + 91T^2 - 14T +$   |        |           |
|          | $1)/(-T+1)^{16}$   |        |           |
| 51       | $\left(-4T^{16} + 59T^{15} - 405T^{14} + 1715T^{13} - 5005T^{12} + 10647T^{11} - 405T^{12} + 100000000000000000000000000000000000$   | 5      | 1         |
|          | $17017T^{10} + 20735T^9 - 19305T^8 + 13585T^7 - 7007T^6 +$   |        |           |
|          | $2457T^5 - 455T^4 - 35T^3 + 45T^2 - 11T + 1)/(-T + 1)^{16}$  |        |           |
| 343      | $\left(-3T^{16}+44T^{15}-300T^{14}+1260T^{13}-3640T^{12}+7644T^{11}-\right.$   | 4      | 1         |
|          | $12012T^{10} + 14300T^9 - 12870T^8 + 8580T^7 - 4004T^6 + 1092T^5 -$  |        |           |
|          | $140T^3 + 60T^2 - 12T + 1)/(-T + 1)^{16}$  |        |           |
| 2236     | $\left  (T^{15} - 13T^{14} + 77T^{13} - 273T^{12} + 637T^{11} - 1001T^{10} + 1001T^{9} - 1001T^{10} + 1001T^{10}$ | 2      | 2         |
|          | $429T^8 - 429T^7 + 1001T^6 - 1001T^5 + 637T^4 - 273T^3 + 77T^2 -$  |        |           |
|          | $13T+1)/(-T+1)^{16}$   |        |           |
| 246      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^8$  | 3      | 4         |
| 4503     | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$   | 2      | 2         |
| 531      | $(T^7 - 6T^6 + 14T^5 - 15T^4 + 5T^3 + 4T^2 - 4T + 1)/(-T + 1)^8$   | 1      | 3         |
| 10473    | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$   | 1      | 2         |
| 401      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^9$   | 2      | 4         |
| 214      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$   | 2      | 3         |
|          | $1)/(-T+1)^9$  |        |           |
| 70       | $\left(-4T^{10}+35T^9-135T^8+300T^7-420T^6+378T^5-210T^4+\right.$  | 5      | 3         |
|          | $60T^3 - 5T + 1)/(-T + 1)^{12}$  |        |           |
| 248      | $(T^2 - 2T + 1)/(-T + 1)^5$  | 1      | 3         |
| 25       | (-T+1)(-4)   | 1      | 4         |
| page –   | Continued on next  |        |           |

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|--------|--|--------|-----------|
| Coun   | Hilbert Series   | Degree | Dimension |
| 120    | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$  | 1      | 2         |
| 486    | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$  | 1      | 1         |
| 140    | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$  | 1      | 0         |
| 16     | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^7$   | 2      | 3         |
| 43     | $(T^6 - 2T^5 - T^4 + 4T^3 - T^2 - 2T + 1)/(-T + 1)^7$  | 4      | 3         |
| 3      | $\left(-T^{15}+7T^{14}-T^{13}-169T^{12}+923T^{11}-2717T^{10}+5291T^{9}-\right.$  | 8      | 3         |
|        | $7293T^8 + 7293T^7 - 5291T^6 + 2717T^5 - 923T^4 + 169T^3 + T^2 - 7277T^5 - $     |        |           |
|        | $(7T+1)/(-T+1)^{16}$   |        |           |
| 172    | $(3T^{15} - 41T^{14} + 259T^{13} - 1001T^{12} + 2639T^{11} - 5005T^{10} +$   | 4      | 2         |
|        | $7007T^9 - 7293T^8 + 5577T^7 - 3003T^6 + 1001T^5 - 91T^4 -$  |        |           |
|        | $91T^3 + 49T^2 - 11T + 1)/(-T + 1)^{16}$   |        |           |
| 866    | $(-T^{16} + 16T^{15} - 118T^{14} + 532T^{13} - 1638T^{12} + 3640T^{11} -$  | 2      | 2         |
|        | $6006T^{10} + 7436T^9 - 6864T^8 + 4576T^7 - 2002T^6 + 364T^5 +$  |        |           |
|        | $182T^4 - 168T^3 + 62T^2 - 12T + 1)/(-T + 1)^{16}$   |        |           |
| 369    | $(2T^{15} - 27T^{14} + 168T^{13} - 637T^{12} + 1638T^{11} - 3003T^{10} +$  | 3      | 2         |
|        | $4004T^9 - 3861T^8 + 2574T^7 - 1001T^6 + 273T^4 - 182T^3 +$  |        |           |
|        | $63T^2 - 12T + 1)/(-T + 1)^{16}$   |        |           |
| 181    | $\left(-T^{16} + 17T^{15} - 132T^{14} + 623T^{13} - 2002T^{12} + 4641T^{11} - 12002T^{12} + 4641T^{12} - 12002T^{12} + 40002T^{12} + 40002T^$ | 3      | 2         |
|        | $8008T^{10} + 10439T^9 - 10296T^8 + 7579T^7 - 4004T^6 + 1365T^5 -$   |        |           |
|        | $182T^4 - 77T^3 + 48T^2 - 11T + 1)/(-T + 1)^{16}$  |        |           |
| 80     | $\left(-T^{16} + 18T^{15} - 146T^{14} + 714T^{13} - 2366T^{12} + 5642T^{11} - 146T^{14} + 714T^{13} - 2366T^{12} + 5642T^{11} - 146T^{14} + 714T^{13} - 146T^{14} + 714T^{14} + 7$ | 4      | 2         |
|        | $10010T^{10} + 13442T^9 - 13728T^8 + 10582T^7 - 6006T^6 +$   |        |           |
|        | $2366T^5 - 546T^4 + 14T^3 + 34T^2 - 10T + 1)/(-T + 1)^{16}$  |        |           |
| 51     | $\left(-2T^{16} + 32T^{15} - 237T^{14} + 1078T^{13} - 3367T^{12} + 7644T^{11} - \right)$   | 3      | 2         |
|        | $13013T^{10} + 16874T^9 - 16731T^8 + 12584T^7 - 7007T^6 +$   |        |           |
|        | $2730T^5 - 637T^4 + 28T^3 + 33T^2 - 10T + 1)/(-T + 1)^{16}$  |        |           |
| 17     | $(5T^{15} - 69T^{14} + 441T^{13} - 1729T^{12} + 4641T^{11} - 9009T^{10} +$   | 6      | 2         |
|        | $13013T^9 - 14157T^8 + 11583T^7 - 7007T^6 + 3003T^5 - 819T^4 +$  |        |           |
|        | $91T^3 + 21T^2 - 9T + 1)/(-T + 1)^{16}$  |        |           |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 2      | $(-2T^{16} + 31T^{15} - 223T^{14} + 987T^{13} - 3003T^{12} + 6643T^{11} -$   | 272                |
|           |        | $11011T^{10} + 13871T^9 - 13299T^8 + 9581T^7 - 5005T^6 + 1729T^5 -$  |                    |
|           |        | $273T^4 - 63T^3 + 47T^2 - 11T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^9$   | 3969               |
| 3         | 7      | $(-T^{11} + 4T^{10} + 8T^9 - 87T^8 + 258T^7 - 420T^6 + 420T^5 -$   | 9                  |
|           |        | $258T^4 + 87T^3 - 8T^2 - 4T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 4      | $(-3T^{10} + 26T^9 - 99T^8 + 216T^7 - 294T^6 + 252T^5 - 126T^4 +$  | 29                 |
|           |        | $24T^3 + 9T^2 - 6T + 1)/(-T + 1)^{12}$   |                    |
| 4         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^8$  | 1073               |
| 4         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^8$  | 518                |
| 4         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^8$   | 443                |
| 2         | 3      | $(-2T^6 + 9T^5 - 15T^4 + 10T^3 - 3T + 1)/(-T + 1)^7$   | 166                |
| 2         | 1      | $(-T^{16} + 15T^{15} - 104T^{14} + 441T^{13} - 1274T^{12} + 2639T^{11} -$  | 94                 |
|           |        | $4004T^{10} + 4433T^9 - 3432T^8 + 1573T^7 - 637T^5 + 546T^4 -$   |                    |
|           |        | $259T^3 + 76T^2 - 13T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 2      | $(T^{15} - 15T^{14} + 103T^{13} - 429T^{12} + 1209T^{11} - 2431T^{10} +$   | 102                |
|           |        | $3575T^9 - 3861T^8 + 3003T^7 - 1573T^6 + 429T^5 + 65T^4 - 117T^3 +$  |                    |
|           |        | $51T^2 - 11T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 6      | $\left(-T^{16} + 20T^{15} - 174T^{14} + 896T^{13} - 3094T^{12} + 7644T^{11} - 1000000000000000000000000000000000$  | 3                  |
|           |        | $14014T^{10} + 19448T^9 - 20592T^8 + 16588T^7 - 10010T^6 +$  |                    |
|           |        | $4368T^5 - 1274T^4 + 196T^3 + 6T^2 - 8T + 1)/(-T + 1)^{16}$  |                    |
| 2         | 5      | $\left(4T^{15} - 55T^{14} + 350T^{13} - 1365T^{12} + 3640T^{11} - 7007T^{10} + \right)$  | 51                 |
|           |        | $10010T^9 - 10725T^8 + 8580T^7 - 5005T^6 + 2002T^5 - 455T^4 +$   |                    |
|           |        | $35T^2 - 10T + 1)/(-T + 1)^{16}$   |                    |
| 3         | 2      | $\left(-T^{14}+12T^{13}-65T^{12}+208T^{11}-429T^{10}+572T^{9}-429T^{8}+\right.$  | 146                |
|           |        | $429T^6 - 572T^5 + 429T^4 - 208T^3 + 65T^2 - 12T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 5      | $\left(-T^{16} + 19T^{15} - 160T^{14} + 805T^{13} - 2730T^{12} + 6643T^{11} - 1800T^{12} + 6643T^{11} - 1800T^{12} + 6643T^{11} - 1800T^{12} + 1800T^{1$ | 15                 |
|           |        | $12012T^{10} + 16445T^9 - 17160T^8 + 13585T^7 - 8008T^6 +$   |                    |
|           |        | $3367T^5 - 910T^4 + 105T^3 + 20T^2 - 9T + 1)/(-T + 1)^{16}$  |                    |
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|----------|--|---|-----------|
| Coun     | Hilbert Series   |   | Dimension |
| 33       | $\left[ (-T^{16} + 15T^{15} - 106T^{14} + 467T^{13} - 1430T^{12} + 3211T^{11} - 1430T^{12} + 3211T^{11} - 1430T^{12} + 3211T^{11} \right]$   | 2 | 3         |
|          | $5434T^{10} + 7007T^9 - 6864T^8 + 5005T^7 - 2574T^6 + 793T^5 -$  |   |           |
|          | $26T^4 - 103T^3 + 50T^2 - 11T + 1)/(-T + 1)^{16}$  |   |           |
| 21       | $\left  (-3T^{16} + 46T^{15} - 328T^{14} + 1442T^{13} - 4368T^{12} + 9646T^{11} - 436T^{12} + 9646T^{12} + 9646T$ | 2 | 2         |
|          | $16016T^{10} + 20306T^9 - 19734T^8 + 14586T^7 - 8008T^6 +$   |   |           |
|          | $3094T^5 - 728T^4 + 42T^3 + 32T^2 - 10T + 1)/(-T + 1)^{16}$  |   |           |
| 28       | $\left  (-T^{16} + 16T^{15} - 120T^{14} + 558T^{13} - 1794T^{12} + 4212T^{11} - 180T^{12} + 1$ | 2 | 3         |
|          | $7436T^{10} + 10010T^9 - 10296T^8 + 8008T^7 - 4576T^6 + 1794T^5 -$   |   |           |
|          | $390T^4 - 12T^3 + 36T^2 - 10T + 1)/(-T + 1)^{16}$  |   |           |
| 40       | $\left  (-T^{15} + 9T^{14} - 27T^{13} - 13T^{12} + 351T^{11} - 1287T^{10} + 2717T^9 - 1287T^{10} + 2717T^{10} + 2717T$ | 6 | 3         |
|          | $3861T^8 + 3861T^7 - 2717T^6 + 1287T^5 - 351T^4 + 13T^3 + 27T^2 -$   |   |           |
|          | $9T+1)/(-T+1)^{16}$  |   |           |
| 15       | $(-T^7 + T^6 + 9T^5 - 25T^4 + 25T^3 - 9T^2 - T + 1)/(-T + 1)^9$  | 6 | 4         |
| 4        | $(T^{14} - 8T^{13} + 19T^{12} + 32T^{11} - 319T^{10} + 968T^9 - 1749T^8 +$   | 6 | 4         |
|          | $2112T^7 - 1749T^6 + 968T^5 - 319T^4 + 32T^3 + 19T^2 - 8T +$   |   |           |
|          | $1)/(-T+1)^{16}$   |   |           |
| 106      | $(T^9 - 8T^8 + 28T^7 - 55T^6 + 64T^5 - 41T^4 + 8T^3 + 7T^2 - 5T +$   | 1 | 3         |
|          | $1)/(-T+1)^9$  |   |           |
| 17       | $(-2T^8 + 14T^7 - 41T^6 + 64T^5 - 55T^4 + 22T^3 + T^2 - 4T +$  | 1 | 3         |
|          | $1)/(-T+1)^9$  |   |           |
| 284      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$   | 1 | 3         |
|          | $(1)^9$  |   |           |
| 7        | $(2T^7 - 13T^6 + 34T^5 - 45T^4 + 30T^3 - 7T^2 - 2T + 1)/(-T + 1)^9$  | 2 | 4         |
| 6        | $(-2T^{10} + 18T^9 - 71T^8 + 160T^7 - 224T^6 + 196T^5 - 98T^4 +$   | 1 | 1         |
|          | $16T^3 + 10T^2 - 6T + 1)/(-T + 1)^9$   |   |           |
| 6        | $(-T^{10} + 9T^9 - 36T^8 + 83T^7 - 119T^6 + 105T^5 - 49T^4 + T^3 +$  | 1 | 2         |
|          | $12T^2 - 6T + 1)/(-T + 1)^9$   |   |           |
| 9        | $(-T^{10} + 11T^9 - 51T^8 + 132T^7 - 210T^6 + 210T^5 - 126T^4 +$   | 3 | 1         |
|          | $36T^3 + 3T^2 - 5T + 1)/(-T + 1)^9$  |   |           |
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|--------|---|--------|-----------|
| Coun   | Hilbert Series  | Degree | Dimension |
| 23     | $\left  (-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T + \frac{1}{2} \right $ | 3      | 3         |
|        | $1)/(-T+1)^9$   |        |           |
| 21     | $(-T^7 + 4T^6 - 6T^5 + 5T^4 - 5T^3 + 6T^2 - 4T + 1)/(-T + 1)^9$                         | 3      | 4         |
| 6      | $ (-3T^8 + 21T^7 - 62T^6 + 99T^5 - 90T^4 + 43T^3 - 6T^2 - 3T +$                         | 1      | 3         |
|        | $1)/(-T+1)^9$   |        |           |
| 7      | $(T^8 - 5T^7 + 7T^6 + 4T^5 - 20T^4 + 19T^3 - 5T^2 - 2T + 1)/(-T + 1)^9$                 | 3      | 4         |
| 1      | $(-T^{10} + 10T^9 - 44T^8 + 112T^7 - 181T^6 + 190T^5 - 125T^4 +$                        | 1      | 3         |
|        | $44T^3 - 2T^2 - 4T + 1)/(-T + 1)^9$   |        |           |
| 28     | $(T^9 - 9T^8 + 35T^7 - 76T^6 + 99T^5 - 76T^4 + 29T^3 - 4T +$                            | 1      | 3         |
|        | $1)/(-T+1)^9$   |        |           |
| 47     | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^9$                            | 4      | 4         |
| 52     | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^9$                     | 4      | 3         |
| 30     | $(-T^{11} + 5T^{10} - T^9 - 51T^8 + 174T^7 - 294T^6 + 294T^5 - 174T^4 +$                | 6      | 3         |
|        | $51T^3 + T^2 - 5T + 1)/(-T + 1)^{12}$   |        |           |
| 10     | $(-2T^{16} + 30T^{15} - 209T^{14} + 896T^{13} - 2639T^{12} + 5642T^{11} -$              | 1      | 2         |
|        | $9009T^{10} + 10868T^9 - 9867T^8 + 6578T^7 - 3003T^6 + 728T^5 +$                        |        |           |
|        | $91T^4 - 154T^3 + 61T^2 - 12T + 1)/(-T + 1)^{16}$                                       |        |           |
| 7      | $\left(4T^{15} - 57T^{14} + 376T^{13} - 1521T^{12} + 4212T^{11} - 8437T^{10} + \right.$ | 2      | 3         |
|        | $12584T^9 - 14157T^8 + 12012T^7 - 7579T^6 + 3432T^5 - 1027T^4 +$                        |        |           |
|        | $156T^3 + 9T^2 - 8T + 1)/(-T + 1)^{16}$   |        |           |
| 4      | $(-5T^{16} + 74T^{15} - 510T^{14} + 2170T^{13} - 6370T^{12} + 13650T^{11} -$            | 6      | 1         |
|        | $22022T^{10} + 27170T^9 - 25740T^8 + 18590T^7 - 10010T^6 +$                             |        |           |
|        | $3822T^5 - 910T^4 + 70T^3 + 30T^2 - 10T + 1)/(-T + 1)^{16}$                             |        |           |
| 7      | $(3T^{15} - 43T^{14} + 285T^{13} - 1157T^{12} + 3211T^{11} - 6435T^{10} +$              | 2      | 3         |
|        | $9581T^9 - 10725T^8 + 9009T^7 - 5577T^6 + 2431T^5 - 663T^4 +$                           |        |           |
|        | $65T^3 + 23T^2 - 9T + 1)/(-T + 1)^{16}$   |        |           |
| 18     | $(2T^{15} - 29T^{14} + 194T^{13} - 793T^{12} + 2210T^{11} - 4433T^{10} +$               | 2      | 3         |
|        | $6578T^9 - 7293T^8 + 6006T^7 - 3575T^6 + 1430T^5 - 299T^4 -$                            |        |           |
|        | $26T^3 + 37T^2 - 10T + 1)/(-T + 1)^{16}$  |        |           |

|           |        | $\leftarrow$ Continued from previo  | us page            |
|-----------|--------|---|--------------------|
| Dimension | Degree | Hilbert Series  | Count              |
| 4         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^{10}$    | 88                 |
| 3         | 2      | $(-T^{16} + 17T^{15} - 134T^{14} + 649T^{13} - 2158T^{12} + 5213T^{11} -$ | 9                  |
|           |        | $9438T^{10} + 13013T^9 - 13728T^8 + 11011T^7 - 6578T^6 + 2795T^5 -$       |                    |
|           |        | $754T^4 + 79T^3 + 22T^2 - 9T + 1)/(-T + 1)^{16}$                          |                    |
| 3         | 6      | $(-5T^{14} + 64T^{13} - 377T^{12} + 1352T^{11} - 3289T^{10} + 5720T^9 -$  | 18                 |
|           |        | $7293T^8 + 6864T^7 - 4719T^6 + 2288T^5 - 715T^4 + 104T^3 +$               |                    |
|           |        | $13T^2 - 8T + 1)/(-T + 1)^{16}$   |                    |
| 2         | 8      | $(-2T^9 + 9T^8 - 8T^7 - 28T^6 + 84T^5 - 98T^4 + 56T^3 - 12T^2 -$          | 2                  |
|           |        | $(2T+1)/(-T+1)^9$   |                    |
| 2         | 6      | $(-T^9 + 3T^8 + 6T^7 - 42T^6 + 84T^5 - 84T^4 + 42T^3 - 6T^2 -$            | 11                 |
|           |        | $3T+1)/(-T+1)^9$  |                    |
| 2         | 5      | $\left(-4 T^8+27 T^7-77 T^6+119 T^5-105 T^4+49 T^3-7 T^2-3 T+\right.$     | 5                  |
|           |        | $1)/(-T+1)^9$   |                    |
| 2         | 5      | $(-T^9 + 4T^8 - T^7 - 21T^6 + 49T^5 - 49T^4 + 21T^3 + T^2 - 4T +$         | 3                  |
|           |        | $1)/(-T+1)^9$   |                    |
| 4         | 3      | $(-2T^8 + 13T^7 - 38T^6 + 64T^5 - 65T^4 + 37T^3 - 8T^2 - 2T +$            | 4                  |
|           |        | $1)/(-T+1)^9$   |                    |
| 4         | 3      | $(-T^8+6T^7-17T^6+29T^5-30T^4+16T^3-T^2-3T+1)/(-T+1)$                     | 7                  |
|           |        | $1)^9$  |                    |
| 4         | 5      | $(T^8 - 7T^7 + 17T^6 - 16T^5 + 9T^3 - 3T^2 - 2T + 1)/(-T + 1)^9$          | 6                  |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$          | 39                 |
| 4         | 2      | $(-T^6 + 6T^5 - 13T^4 + 12T^3 - 3T^2 - 2T + 1)/(-T + 1)^8$                | 94                 |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$       | 194                |
| 4         | 5      | $(T^6 - T^5 - 5T^4 + 10T^3 - 5T^2 - T + 1)/(-T + 1)^8$                    | 18                 |
| 2         | 1      | $(-T^{10} + 9T^9 - 35T^8 + 76T^7 - 98T^6 + 70T^5 - 14T^4 - 20T^3 +$       | 64                 |
|           |        | $19T^2 - 7T + 1)/(-T + 1)^{10}$   |                    |
| 4         | 1      | $(-2T^5 + 5T^4 - 3T^3 - T + 1)/(-T + 1)^6$                                | 9                  |
| 3         | 1      | $(2T^6 - 7T^5 + 8T^4 - 3T^3 + T^2 - 2T + 1)/(-T + 1)^6$                   | 2                  |
|           |        | Continued on next   | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 2         | 4      | $(-2T^{16} + 33T^{15} - 251T^{14} + 1169T^{13} - 3731T^{12} + 8645T^{11} -$  | 5                  |
|           |        | $15015T^{10} + 19877T^9 - 20163T^8 + 15587T^7 - 9009T^6 +$   |                    |
|           |        | $3731T^5 - 1001T^4 + 119T^3 + 19T^2 - 9T + 1)/(-T + 1)^{16}$   |                    |
| 4         | 5      | $(-T^7 + 2T^6 + 4T^5 - 15T^4 + 15T^3 - 4T^2 - 2T + 1)/(-T + 1)^9$  | 3                  |
| 4         | 4      | $(3T^5 - 11T^4 + 14T^3 - 6T^2 - T + 1)/(-T + 1)^8$   | 2                  |
| 3         | 5      | $(4T^7 - 23T^6 + 54T^5 - 65T^4 + 40T^3 - 9T^2 - 2T + 1)/(-T + 1)^9$  | 5                  |
| 4         | 3      | $(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$   | 38                 |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 4         | 3      | $(-2T^{10} + 20T^9 - 87T^8 + 216T^7 - 336T^6 + 336T^5 - 210T^4 +$  | 10                 |
|           |        | $72T^3 - 6T^2 - 4T + 1)/(-T + 1)^{12}$   |                    |
| 2         | 4      | $(-T^9 + 5T^8 - 8T^7 + 14T^5 - 14T^4 + 8T^2 - 5T + 1)/(-T + 1)^9$  | 17                 |
| 4         | 2      | $(-T^8 + 7T^7 - 22T^6 + 39T^5 - 40T^4 + 21T^3 - 2T^2 - 3T +$   | 3                  |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 8      | $(3T^8 - 14T^7 + 22T^6 - 6T^5 - 20T^4 + 22T^3 - 6T^2 - 2T +$   | 20                 |
|           |        | $1)/(-T+1)^9$  |                    |
| 3         | 2      | $\left(2T^{11} - 21T^{10} + 98T^9 - 267T^8 + 468T^7 - 546T^6 + 420T^5 - 46T^6 + 420T^5 - 46T^6 + 420T^6 +$ | 4                  |
|           |        | $198T^4 + 42T^3 + 7T^2 - 6T + 1)/(-T + 1)^{12}$  |                    |
| 3         | 4      | $\left(-T^{16} + 16T^{15} - 122T^{14} + 584T^{13} - 1950T^{12} + 4784T^{11} - 1950T^{12} + 4784T^{12} + 4784T^{1$ | 2                  |
|           |        | $8866T^{10} + 12584T^9 - 13728T^8 + 11440T^7 - 7150T^6 + 3224T^5 -$  |                    |
|           |        | $962T^4 + 144T^3 + 10T^2 - 8T + 1)/(-T + 1)^{16}$  |                    |
| 3         | 10     | $\left(-2T^{15} + 19T^{14} - 66T^{13} + 39T^{12} + 494T^{11} - 2145T^{10} + \right)$   | 3                  |
|           |        | $4862T^9 - 7293T^8 + 7722T^7 - 5863T^6 + 3146T^5 - 1131T^4 +$  |                    |
|           |        | $234T^3 - 11T^2 - 6T + 1)/(-T + 1)^{16}$   |                    |
| 1         | 3      | $\left(-2T^{10} + 17T^9 - 63T^8 + 132T^7 - 168T^6 + 126T^5 - 42T^4 - 126T^6 + 126T^6 + 126T^6 - 42T^4 - 126T^6 + 126T^6 + 126T^6 - 126T^6 + 126T^6 - 126T^6 + 126T^6 - 126T^6 + 126T^6 - 126T^6 - 126T^6 + 126T^6 - 1$ | 9                  |
|           |        | $12T^3 + 18T^2 - 7T + 1)/(-T + 1)^{10}$  |                    |
| 2         | 7      | $\left(6T^{15} - 83T^{14} + 532T^{13} - 2093T^{12} + 5642T^{11} - 11011T^{10} + \right)$   | 4                  |
|           |        | $16016T^9 - 17589T^8 + 14586T^7 - 9009T^6 + 4004T^5 - 1183T^4 +$   |                    |
|           |        | $182T^3 + 7T^2 - 8T + 1)/(-T + 1)^{16}$  |                    |
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|-----------|--------|---|--------------------|
| Dimension | Degree | Hilbert Series  | Count              |
| 3         | 1      | $(T^{11} - 10T^{10} + 44T^9 - 111T^8 + 174T^7 - 168T^6 + 84T^5 + 6T^4 -$            | 2                  |
|           |        | $39T^3 + 26T^2 - 8T + 1)/(-T + 1)^{12}$   |                    |
| 3         | 1      | $(-T^{12} + 11T^{11} - 55T^{10} + 164T^9 - 321T^8 + 426T^7 - 378T^6 +$              | 2                  |
|           |        | $204T^5 - 39T^4 - 29T^3 + 25T^2 - 8T + 1)/(-T + 1)^{12}$                            |                    |
| 3         | 1      | $(-T^9 + 9T^8 - 36T^7 + 84T^6 - 126T^5 + 126T^4 - 84T^3 + 36T^2 -$                  | 4                  |
|           |        | $9T+1)/(-T+1)^{12}$   |                    |
| 3         | 1      | $(2T^{11} - 20T^{10} + 89T^9 - 231T^8 + 384T^7 - 420T^6 + 294T^5 -$                 | 2                  |
|           |        | $114T^4 + 6T^3 + 16T^2 - 7T + 1)/(-T + 1)^{12}$                                     |                    |
| 3         | 1      | $(-T^{12} + 12T^{11} - 65T^{10} + 209T^9 - 441T^8 + 636T^7 - 630T^6 +$              | 2                  |
|           |        | $414T^5 - 159T^4 + 16T^3 + 15T^2 - 7T + 1)/(-T + 1)^{12}$                           |                    |
| 4         | 1      | $(2T^5 - 8T^4 + 11T^3 - 5T^2 - T + 1)/(-T + 1)^7$                                   | 10                 |
| 2         | 2      | $\left(-4 T^{16}+61 T^{15}-433 T^{14}+1897 T^{13}-5733 T^{12}+12649 T^{11}-\right.$ | 2                  |
|           |        | $21021T^{10} + 26741T^9 - 26169T^8 + 19591T^7 - 11011T^6 +$                         |                    |
|           |        | $4459T^5 - 1183T^4 + 147T^3 + 17T^2 - 9T + 1)/(-T + 1)^{16}$                        |                    |
| 3         | 2      | $(-T^{16} + 18T^{15} - 148T^{14} + 740T^{13} - 2522T^{12} + 6214T^{11} -$           | 1                  |
|           |        | $11440T^{10} + 16016T^9 - 17160T^8 + 14014T^7 - 8580T^6 +$                          |                    |
|           |        | $3796T^5 - 1118T^4 + 170T^3 + 8T^2 - 8T + 1)/(-T + 1)^{16}$                         |                    |
| 3         | 3      | $(-T^5 + 2T^4 - T^3 + T^2 - 2T + 1)/(-T + 1)^6$                                     | 22                 |
| 2         | 6      | $(3T^6 - 10T^5 + 11T^4 - 4T^3 + T^2 - 2T + 1)/(-T + 1)^6$                           | 12                 |
| 2         | 3      | $(T^6 - 3T^5 + 3T^4 - 2T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                             | 44                 |
| 4         | 4      | $(-T^5 + T^4 + 2T^3 - 2T^2 - T + 1)/(-T + 1)^7$                                     | 1                  |
| 2         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^7$                        | 2                  |
| 3         | 6      | $(-T^9 + 3T^8 + 6T^7 - 42T^6 + 84T^5 - 84T^4 + 42T^3 - 6T^2 -$                      | 1                  |
|           |        | $3T+1)/(-T+1)^{10}$   |                    |
| 4         | 3      | $(-T^{11} + 6T^{10} - 7T^9 - 39T^8 + 174T^7 - 336T^6 + 378T^5 -$                    | 4                  |
|           |        | $258T^4 + 99T^3 - 14T^2 - 3T + 1)/(-T + 1)^{12}$                                    |                    |
| 3         | 1      | $(T^7 - 6T^6 + 15T^5 - 19T^4 + 11T^3 - 3T + 1)/(-T + 1)^7$                          | 16                 |
|           |        | Continued on next   | $page \rightarrow$ |

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|-----------|--------|--|--------------------|
| Dimension | Degree | Hilbert Series   | Count              |
| 3         | 2      | $(-2T^{16} + 30T^{15} - 211T^{14} + 922T^{13} - 2795T^{12} + 6214T^{11} -$   | 4                  |
|           |        | $10439T^{10} + 13442T^9 - 13299T^8 + 10010T^7 - 5577T^6 +$                   |                    |
|           |        | $2158T^5 - 481T^4 + 2T^3 + 35T^2 - 10T + 1)/(-T + 1)^{16}$                   |                    |
| 2         | 3      | $(-3T^{16} + 47T^{15} - 342T^{14} + 1533T^{13} - 4732T^{12} + 10647T^{11} -$ | 3                  |
|           |        | $18018T^{10} + 23309T^9 - 23166T^8 + 17589T^7 - 10010T^6 +$                  |                    |
|           |        | $4095T^5 - 1092T^4 + 133T^3 + 18T^2 - 9T + 1)/(-T + 1)^{16}$                 |                    |
| 3         | 2      | $(-T^{10} + 9T^9 - 37T^8 + 90T^7 - 140T^6 + 140T^5 - 84T^4 + 22T^3 +$        | 1                  |
|           |        | $5T^2 - 5T + 1)/(-T + 1)^{10}$   |                    |
| 3         | 2      | $(-2T^{16} + 31T^{15} - 225T^{14} + 1013T^{13} - 3159T^{12} + 7215T^{11} -$  | 2                  |
|           |        | $12441T^{10} + 16445T^9 - 16731T^8 + 13013T^7 - 7579T^6 +$                   |                    |
|           |        | $3159T^5 - 845T^4 + 93T^3 + 21T^2 - 9T + 1)/(-T + 1)^{16}$                   |                    |
| 3         | 2      | $(3T^{11} - 31T^{10} + 143T^9 - 387T^8 + 678T^7 - 798T^6 + 630T^5 -$         | 1                  |
|           |        | $318T^4 + 87T^3 - 3T^2 - 5T + 1)/(-T + 1)^{12}$                              |                    |
| 4         | 6      | $(5T^9 - 39T^8 + 132T^7 - 252T^6 + 294T^5 - 210T^4 + 84T^3 -$                | 1                  |
|           |        | $12T^2 - 3T + 1)/(-T + 1)^{12}$  |                    |
| 4         | 2      | $(-2T^8 + 15T^7 - 47T^6 + 79T^5 - 75T^4 + 37T^3 - 5T^2 - 3T +$               | 5                  |
|           |        | $1)/(-T+1)^{10}$   |                    |
| 3         | 6      | $(-3T^5 + 7T^4 - 4T^3 - T + 1)/(-T + 1)^6$                                   | 3                  |
| 4         | 2      | $(-T^5 + 3T^4 - 2T^3 - T + 1)/(-T + 1)^6$                                    | 2                  |
| 1         | 4      | $(-3T^{12} + 32T^{11} - 154T^{10} + 440T^9 - 825T^8 + 1056T^7 - 924T^6 +$    | 2                  |
|           |        | $528T^5 - 165T^4 + 22T^2 - 8T + 1)/(-T + 1)^{12}$                            |                    |
| 2         | 3      | $(-T^9 + 6T^8 - 15T^7 + 21T^6 - 21T^5 + 21T^4 - 21T^3 + 15T^2 -$             | 1                  |
|           |        | $(6T+1)/(-T+1)^9$  |                    |
| 3         | 6      | $(T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + 1)^9$     | 3                  |
| 2         | 1      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$                         | 97                 |
|           |        | 1)8  |                    |
| 4         | 4      | $(T^8-6T^7+12T^6-6T^5-10T^4+14T^3-4T^2-2T+1)/(-T+1)^9$                       | 2                  |
|           |        | Continued on next  | $page \rightarrow$ |

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|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 3         | 4      | $(T^{15} - 17T^{14} + 129T^{13} - 585T^{12} + 1781T^{11} - 3861T^{10} +$           | 2       |
|           |        | $6149T^9 - 7293T^8 + 6435T^7 - 4147T^6 + 1859T^5 - 507T^4 +$                       |         |
|           |        | $39T^3 + 25T^2 - 9T + 1)/(-T + 1)^{16}$  |         |
| 2         | 8      | $(T^{16} - 8T^{15} + 8T^{14} + 168T^{13} - 1092T^{12} + 3640T^{11} - 8008T^{10} +$ | 1       |
|           |        | $12584T^9 - 14586T^8 + 12584T^7 - 8008T^6 + 3640T^5 - 1092T^4 +$                   |         |
|           |        | $168T^3 + 8T^2 - 8T + 1)/(-T + 1)^{16}$  |         |
| 2         | 1      | $(-3T^{16} + 45T^{15} - 314T^{14} + 1351T^{13} - 4004T^{12} + 8645T^{11} -$        | 1       |
|           |        | $14014T^{10} + 17303T^9 - 16302T^8 + 11583T^7 - 6006T^6 +$                         |         |
|           |        | $2093T^{5} - 364T^{4} - 49T^{3} + 46T^{2} - 11T + 1)/(-T + 1)^{16}$                |         |
| 4         | 2      | $(T^6 - 4T^5 + 5T^4 - 2T^3 + T^2 - 2T + 1)/(-T + 1)^7$                             | 2       |
| 2         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$                       | 8       |
|           |        | $1)/(-T+1)^8$  |         |
| 4         | 1      | $(-2T^6 + 10T^5 - 19T^4 + 16T^3 - 4T^2 - 2T + 1)/(-T + 1)^8$                       | 5       |
| 4         | 6      | $(T^{10} - 4T^9 - 3T^8 + 48T^7 - 126T^6 + 168T^5 - 126T^4 + 48T^3 -$               | 1       |
|           |        | $3T^2 - 4T + 1)/(-T + 1)^{12}$   |         |
| 3         | 6      | $(T^{15} - 19T^{14} + 155T^{13} - 741T^{12} + 2353T^{11} - 5291T^{10} +$           | 1       |
|           |        | $8723T^9 - 10725T^8 + 9867T^7 - 6721T^6 + 3289T^5 - 1079T^4 +$                     |         |
|           |        | $195T^3 - T^2 - 7T + 1)/(-T + 1)^{16}$   |         |

# $6 \quad \underline{N=7}$

#### 6.1 E=7

Table 25: Quivers with 7 Vertices and 7 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

### 6.2 E=8

Table 26: Quivers with 7 Vertices and 8 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 5     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 8     |

Table 27: Quivers with 7 Vertices and 9 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | (-T+1)(-2)                                | 34    |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 83    |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 82    |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 93    |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 170   |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 282   |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 14    |
| 1         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^4$       | 4     |

Table 28: Quivers with 7 Vertices and 10 Edges

| Dimension | Degree | Hilbert Series  | Count                        |
|-----------|--------|---|------------------------------|
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 411                          |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                           | 624                          |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$      | 1508                         |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                   | 446                          |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$          | 1856                         |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$ | 6621                         |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$        | 10945                        |
|           |        | $1)/(-T+1)^8$   |                              |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$ | 358                          |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$    | 192                          |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                 | 1308                         |
| 3         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$        | 50                           |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 735                          |
| 3         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$                                    | 147                          |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                 | 1599                         |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                           | 3212                         |
| 0         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$                 | 1978                         |
| 3         | 1      | (-T+1)(-3)  | 105                          |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$                                 | 388                          |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                 | 360                          |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                     | 168                          |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 3222                         |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 4540                         |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                    | 591                          |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 150                          |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 7832                         |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$                          | 5                            |
|           |        | Continued on next   | $\overline{\text{page}} \to$ |

|           |        | ← Continued from previo  | us page |
|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$  | 120     |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$  | 24      |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$   | 156     |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$  | 23      |
| 2         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$  | 22      |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$   | 18      |
| 2         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^6$  | 64      |
| 1         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$  | 276     |
| 0         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^5$  | 112     |
| 3         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^5$   | 2       |
| 2         | 1      | $(-T^8 + 7T^7 - 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + T^3 + T^2 - T^2 + T^2 + T^2 - T^2 + T^2 + T^2 - T^2 + T^2 $     | 395     |
|           |        | $(1)^8$  |         |
| 2         | 2      | $\left[ (-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T + \right]$  | 22      |
|           |        | $1)/(-T+1)^8$  |         |
| 2         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^8$  | 3       |
| 1         | 3      | $\left(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 19T^4 $ | 24      |
|           |        | $1)/(-T+1)^8$  |         |

# 7 <u>N=8</u>

#### 7.1 E=8

Table 29: Quivers with 8 Vertices and 8 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

### 7.2 E=9

Table 30: Quivers with 8 Vertices and 9 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 5     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 8     |

Table 31: Quivers with 8 Vertices and 10 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | (-T+1)(-2)                                | 61    |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 137   |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 27    |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 140   |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 281   |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 379   |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 134   |
| 1         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^4$       | 12    |

Table 32: Quivers with 8 Vertices and 11 Edges

| Dimension | Degree | Hilbert Series   | Count                                |
|-----------|--------|--|--------------------------------------|
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$  | 1462                                 |
| 3         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$   | 330                                  |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$  | 3518                                 |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$  | 6443                                 |
| 0         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$  | 4128                                 |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$  | 244                                  |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$  | 5573                                 |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$   | 13334                                |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$   | 940                                  |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$  | 8150                                 |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$  | 689                                  |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$   | 3282                                 |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$  | 9627                                 |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$   | 14984                                |
|           |        | $1)/(-T+1)^8$  |                                      |
| 3         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$   | 70                                   |
| 1         | 2      | $ (-T^8 + 6T^7 - 14T^6 + 14T^5 - 14T^3 + 14T^2 - 6T + 1)/(-T + 1)^8 $  | 2561                                 |
| 2         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$   | 88                                   |
|           |        | $1)/(-T+1)^8$  |                                      |
| 2         | 1      | $(-T^8 + 7T^7 - 20T^6 + 29T^5 - 20T^4 + T^3 + 8T^2 - 5T + 1)/(-T + T^3 + T^2 - T^4 + T^4 $ | 820                                  |
|           |        | 1)8  |                                      |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$   | 2099                                 |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$   | 289                                  |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$  | 626                                  |
| 2         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^8$  | 20                                   |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$  | 332                                  |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$   | 42                                   |
|           |        | Continued on next  | $\overline{\text{page}} \rightarrow$ |

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|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$  | 705     |
| 2         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^6$  | 176     |
| 1         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$  | 624     |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$  | 292     |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$  | 35      |
| 3         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^5$   | 7       |
| 2         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$  | 44      |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$   | 296     |
| 0         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^5$  | 272     |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$  | 882     |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$  | 1212    |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$  | 34      |
| 3         | 1      | (-T+1)(-3)   | 267     |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$  | 1030    |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$   | 7       |
| 1         | 3      | $\left(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T + 19T^4 + 1$ | 73      |
|           |        | $1)/(-T+1)^8$  |         |

## $8 \quad \underline{N=9}$

#### 8.1 E=9

Table 33: Quivers with 9 Vertices and 9 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

## 8.2 E=10

Table 34: Quivers with 9 Vertices and 10 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 7     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 10    |

Table 35: Quivers with 9 Vertices and 11 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | (-T+1)(-2)                                | 92    |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 206   |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 201   |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 179   |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 349   |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 37    |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 435   |
| 1         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^4$       | 16    |

Table 36: Quivers with 9 Vertices and 12 Edges

| Dimension | Degree | Hilbert Series  | Count              |
|-----------|--------|---|--------------------|
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 1825               |
| 3         | 1      | (-T+1)(-3)  | 599                |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$                                 | 2332               |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                           | 2432               |
| 3         | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 2777               |
| 3         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$                                    | 689                |
| 2         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                 | 7056               |
| 1         | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$ | 14259              |
| 0         | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$        | 19812              |
|           |        | $1)/(-T+1)^8$   |                    |
| 2         | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$      | 3190               |
| 1         | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                 | 4265               |
| 2         | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$ | 1116               |
| 3         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                   | 1008               |
| 3         | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$    | 517                |
| 2         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$          | 5274               |
| 1         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                           | 12171              |
| 0         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$                 | 7626               |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$                          | 83                 |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                     | 592                |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                 | 1249               |
| 3         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 376                |
| 2         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 9065               |
| 1         | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 13612              |
| 0         | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 21214              |
| 2         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                    | 1426               |
| 1         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$                   | 1206               |
|           |        | Continued on next   | $page \rightarrow$ |

|           |        | ← Continued from previo  | us page |
|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 2         | 1      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$                     | 1549    |
|           |        | $(1)^8$  |         |
| 2         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^8$      | 53      |
| 2         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$             | 249     |
|           |        | $1)/(-T+1)^8$  |         |
| 3         | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$             | 110     |
| 2         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$                          | 90      |
| 2         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$                                      | 698     |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$                         | 604     |
| 0         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^5$                        | 672     |
| 1         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$            | 304     |
|           |        | $1)/(-T+1)^8$  |         |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$                                | 59      |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$                        | 52      |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$                               | 10      |
| 3         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^5$   | 21      |
| 2         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^6$                  | 384     |
| 3         | 6      | $(-T^7 + T^6 + 9T^5 - 25T^4 + 25T^3 - 9T^2 - T + 1)/(-T + 1)^8$          | 5       |
| 3         | 2      | $(2T^7 - 13T^6 + 34T^5 - 45T^4 + 30T^3 - 7T^2 - 2T + 1)/(-T + 1)^8$      | 3       |
| 2         | 3      | $(-T^5 + 2T^4 - T^3 + T^2 - 2T + 1)/(-T + 1)^5$                          | 2       |
| 2         | 3      | $(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$             | 5       |
|           |        | $1)/(-T+1)^8$  |         |
| 1         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)^8$    | 8       |
| 2         | 6      | $(T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + 1)^8$ | 1       |

# 9 N=10

## 9.1 E=10

Table 37: Quivers with 10 Vertices and 10 Edges

| Dimension | Degree | Hilbert Series | Count |
|-----------|--------|----------------|-------|
| 0         | 1      | 1              | 1     |

## 9.2 E=11

Table 38: Quivers with 10 Vertices and 11 Edges

| Dimension | Degree | Hilbert Series              | Count |
|-----------|--------|-----------------------------|-------|
| 1         | 1      | 1/(-T+1)                    | 7     |
| 0         | 1      | $(T^2 - 2T + 1)/(-T + 1)^2$ | 10    |

Table 39: Quivers with 10 Vertices and 12 Edges

| Dimension | Degree | Hilbert Series                            | Count |
|-----------|--------|---|-------|
| 2         | 1      | (-T+1)(-2)                                | 142   |
| 1         | 1      | $(T^2 - 2T + 1)/(-T + 1)^3$               | 308   |
| 0         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^3$       | 294   |
| 2         | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$               | 249   |
| 2         | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^4$          | 60    |
| 1         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$       | 506   |
| 0         | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$ | 542   |
| 1         | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^4$       | 32    |

Table 40: Quivers with 10 Vertices and 13 Edges

| Dimension     | Degree | Hilbert Series  | Count              |
|---------------|--------|---|--------------------|
| 3             | 1      | (-T+1)(-3)  | 1145               |
| 2             | 1      | $(T^2 - 2T + 1)/(-T + 1)^4$   | 3314               |
| 1             | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^4$                                 | 4514               |
| 0             | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^4$                           | 4204               |
| 3             | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^6$                                 | 347                |
| 2             | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^6$                           | 8283               |
| 0             | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^6$          | 17839              |
| 2             | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^6$                    | 1351               |
| 1             | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^6$                 | 12785              |
| 3             | 2      | $(T^3 - T^2 - T + 1)/(-T + 1)^5$                                    | 1259               |
| 3             | 1      | $(T^2 - 2T + 1)/(-T + 1)^5$   | 4699               |
| 2             | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^5$                                 | 12640              |
| 1             | 1      | $(T^4 - 4T^3 + 6T^2 - 4T + 1)/(-T + 1)^5$                           | 20775              |
| 2             | 2      | $(-T^4 + 2T^3 - 2T + 1)/(-T + 1)^5$                                 | 1382               |
| 0             | 1      | $(-T^5 + 5T^4 - 10T^3 + 10T^2 - 5T + 1)/(-T + 1)^5$                 | 12818              |
| 2             | 1      | $(T^6 - 6T^5 + 15T^4 - 20T^3 + 15T^2 - 6T + 1)/(-T + 1)^8$          | 3180               |
| 0             | 1      | $(T^8 - 8T^7 + 28T^6 - 56T^5 + 70T^4 - 56T^3 + 28T^2 - 8T +$        | 10171              |
|               |        | $1)/(-T+1)^8$   |                    |
| 1             | 2      | $(-T^8+6T^7-14T^6+14T^5-14T^3+14T^2-6T+1)/(-T+1)^8$                 | 2726               |
| 3             | 2      | $(T^7 - 7T^6 + 19T^5 - 25T^4 + 15T^3 - T^2 - 3T + 1)/(-T + 1)^8$    | 279                |
| 1             | 1      | $(-T^7 + 7T^6 - 21T^5 + 35T^4 - 35T^3 + 21T^2 - 7T + 1)/(-T + 1)^8$ | 7747               |
| 2             | 2      | $(T^7 - 5T^6 + 9T^5 - 5T^4 - 5T^3 + 9T^2 - 5T + 1)/(-T + 1)^8$      | 1824               |
| 3             | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^8$                   | 621                |
| 2             | 3      | $(2T^7 - 11T^6 + 24T^5 - 25T^4 + 10T^3 + 3T^2 - 4T + 1)/(-T + 1)^8$ | 643                |
| 2             | 1      | $(-T^8+7T^7-20T^6+29T^5-20T^4+T^3+8T^2-5T+1)/(-T+1)$                | 1084               |
|               |        | $(1)^8$   |                    |
| 3             | 4      | $(-3T^6 + 14T^5 - 25T^4 + 20T^3 - 5T^2 - 2T + 1)/(-T + 1)^8$        | 72                 |
| · <del></del> |        | Continued on next   | $page \rightarrow$ |

|           |        | $\leftarrow$ Continued from previo                                       | us page |
|-----------|--------|--|---------|
| Dimension | Degree | Hilbert Series   | Count   |
| 3         | 1      | $(-T^4 + 3T^3 - 2T^2 - T + 1)/(-T + 1)^5$                                | 84      |
| 2         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^5$                          | 146     |
| 2         | 4      | $(3T^7 - 17T^6 + 39T^5 - 45T^4 + 25T^3 - 3T^2 - 3T + 1)/(-T + 1)^8$      | 39      |
| 2         | 2      | $(-T^8 + 8T^7 - 26T^6 + 44T^5 - 40T^4 + 16T^3 + 2T^2 - 4T +$             | 194     |
|           |        | $1)/(-T+1)^8$  |         |
| 1         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^6$                        | 1095    |
| 3         | 1      | $(T^5 - 4T^4 + 5T^3 - T^2 - 2T + 1)/(-T + 1)^6$                          | 587     |
| 3         | 1      | $(-T^3 + 3T^2 - 3T + 1)/(-T + 1)^6$                                      | 1235    |
| 3         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^6$                               | 91      |
| 2         | 1      | $(-T^6 + 5T^5 - 9T^4 + 6T^3 + T^2 - 3T + 1)/(-T + 1)^6$                  | 387     |
| 3         | 3      | $(T^4 - T^3 - T + 1)/(-T + 1)^5$   | 42      |
| 1         | 2      | $(T^5 - 3T^4 + 2T^3 + 2T^2 - 3T + 1)/(-T + 1)^5$                         | 1036    |
| 0         | 2      | $(-T^6 + 4T^5 - 5T^4 + 5T^2 - 4T + 1)/(-T + 1)^5$                        | 1216    |
| 1         | 3      | $(2T^5 - 7T^4 + 8T^3 - 2T^2 - 2T + 1)/(-T + 1)^5$                        | 66      |
| 1         | 3      | $(-2T^8 + 13T^7 - 35T^6 + 49T^5 - 35T^4 + 7T^3 + 7T^2 - 5T +$            | 200     |
|           |        | $1)/(-T+1)^8$  |         |
| 3         | 6      | $(-T^7 + T^6 + 9T^5 - 25T^4 + 25T^3 - 9T^2 - T + 1)/(-T + 1)^8$          | 7       |
| 2         | 3      | $(-2T^4 + 5T^3 - 3T^2 - T + 1)/(-T + 1)^5$                               | 12      |
| 3         | 2      | $(2T^7 - 13T^6 + 34T^5 - 45T^4 + 30T^3 - 7T^2 - 2T + 1)/(-T + 1)^8$      | 3       |
| 1         | 4      | $(-3T^8 + 20T^7 - 56T^6 + 84T^5 - 70T^4 + 28T^3 - 4T + 1)/(-T + 1)^8$    | 7       |
| 2         | 6      | $(T^8 - 2T^7 - 8T^6 + 34T^5 - 50T^4 + 34T^3 - 8T^2 - 2T + 1)/(-T + 1)^8$ | 1       |
| 2         | 3      | $(-T^8 + 9T^7 - 32T^6 + 59T^5 - 60T^4 + 31T^3 - 4T^2 - 3T +$             | 2       |
|           |        | $1)/(-T+1)^8$  |         |
| 2         | 3      | $(-T^5 + 2T^4 - T^3 + T^2 - 2T + 1)/(-T + 1)^5$                          | 2       |