

# Table III

September 12, 2022

**Table III: Links with torsion and  $b_3 \neq 0$  in the Johnson-Kollár list**

| Weights            | Polynomial   | Type          | $d$ | $\mu$ | $H_3(M, \mathbb{Z})$   |
|--------------------|--|---------------|-----|-------|--|
| (5,5,5,4,7)        | $z_0^5 + z_0 z_1^4 + z_1 z_2^4 + z_2 z_3^5 + z_3 z_4^3$        | Chain         | 25  | 864   | $\mathbb{Z}^{44} \oplus \mathbb{Z}_5$  |
| (9,9,4,8,7)        | $z_0^4 + z_1^4 + z_2^9 + z_2 z_3^4 + z_3 z_4^4$                | BP + Chain    | 36  | 1044  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{36})^3 \oplus \mathbb{Z}_4$                     |
| (7,7,7,5,10)       | $z_0^5 + z_1^5 + z_2^5 + z_3^7 + z_3 z_4^3$                    | BP + Chain    | 35  | 960   | $\mathbb{Z}^{36} \oplus (\mathbb{Z}_5)^3$  |
| (8,10,5,7,11)      | $z_0^5 + z_1^4 + z_1 z_2^6 + z_2 z_3^5 + z_3 z_4^3$            | BP + Chain    | 40  | 1044  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^3$  |
| (9,9,15,5,8)       | $z_0^5 + z_1^5 + z_2^3 + z_2 z_3^6 + z_3 z_4^5$                | BP + Chain    | 45  | 1184  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{15})^2 \oplus (\mathbb{Z}_3)^2$                 |
| (5,9,9,12,11)      | $z_0^9 + z_1^5 + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^3$            | BP + Chain    | 45  | 1088  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^4$  |
| (13,5,10,11,27)    | $z_0^5 + z_1^{13} + z_1 z_2^6 + z_2 z_3^5 + z_3 z_4^2$         | BP + Chain    | 65  | 1824  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^6$  |
| (13,13,5,20,15)    | $z_0^5 + z_1^5 + z_2^{13} + z_2 z_3^3 + z_3 z_4^3$             | BP + Chain    | 65  | 1440  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{13})^4$   |
| (16,32,5,15,13)    | $z_0^5 + z_0 z_1^2 + z_2^{16} + z_2 z_3^5 + z_3 z_4^5$         | Chain + Chain | 80  | 2010  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{80})^2 \oplus (\mathbb{Z}_5)^3$                 |
| (18,36,15,5,17)    | $z_0^5 + z_0 z_1^2 + z_2^6 + z_2 z_3^{15} + z_3 z_4^5$         | Chain + Chain | 90  | 2190  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{30})^2 \oplus (\mathbb{Z}_5)^3$                 |
| (5,15,19,38,19)    | $z_0^{19} + z_0 z_1^6 + z_2^5 + z_2 z_3^2 + z_3 z_4^3$         | Chain + Chain | 95  | 2304  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^6$  |
| (47,24,5,19,25)    | $z_4 z_0^2 + z_0 z_1^3 + z_1 z_2^{19} + z_2 z_3^6 + z_3 z_4^4$ | Cycle         | 119 | 2736  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{119}$  |
| (25,25,5,19,27)    | $z_0^4 + z_0 z_1^3 + z_1 z_2^{15} + z_2 z_3^5 + z_3 z_4^3$     | Chain         | 100 | 1971  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{20} \oplus (\mathbb{Z}_5)^2$                     |
| (24,30,57,29,5)    | $z_0^6 + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^{23}$     | Chain         | 144 | 3197  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{12}$   |
| (5,30,24,63,29)    | $z_0^{30} + z_1^5 + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^3$         | BP + Chain    | 150 | 3509  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{50} \oplus (\mathbb{Z}_5)^3$                     |
| (28,28,35,5,45)    | $z_0^5 + z_1^5 + z_2^4 + z_2 z_3^{21} + z_3 z_4^3$             | BP + Chain    | 140 | 2736  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_4)^4$  |
| (33,33,55,5,40)    | $z_0^5 + z_1^5 + z_2^3 + z_2 z_3^{22} + z_3 z_4^4$             | BP + Chain    | 165 | 3200  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^4$  |
| (43,43,5,35,90)    | $z_0^5 + z_1^5 + z_2^{43} + z_2 z_3^6 + z_3 z_4^2$             | BP + Chain    | 215 | 4800  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{43})^4$   |
| (5,125,85,59,107)  | $z_0^{76} + z_0 z_1^3 + z_1 z_2^3 + z_2 z_3^5 + z_3 z_4^3$     | Chain         | 380 | 7371  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{76}$   |
| (5,76,103,141,61)  | $z_0^{77} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^2 + z_3 z_4^4$     | Chain         | 385 | 7776  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{77}$   |
| (108,81,193,5,127) | $z_1 z_0^4 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{64} + z_3 z_4^4$ | Cycle + Cycle | 513 | 10240 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{513} \oplus \mathbb{Z}_{27}$                     |
| (14,7,7,6,9)       | $z_0^3 + z_1^6 + z_2^6 + z_3^7 + z_3 z_4^4$                    | BP + Chain    | 42  | 1100  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_3)^2$  |
| (10,6,13,11,7)     | $z_1 z_0^4 + z_0 z_1^6 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^5$    | Cycle + Cycle | 46  | 1080  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{46} \oplus \mathbb{Z}_2$                         |
| (9,9,6,8,23)       | $z_0^6 + z_1^6 + z_2^9 + z_2 z_3^6 + z_3 z_4^2$                | BP + Chain    | 54  | 1550  | $\mathbb{Z}^{32} \oplus \mathbb{Z}_{18} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^3$ |
| (11,11,6,30,9)     | $z_0^6 + z_1^6 + z_2^{11} + z_2 z_3^2 + z_3 z_4^4$             | BP + Chain    | 66  | 1900  | $\mathbb{Z}^{26} \oplus (\mathbb{Z}_{22})^2 \oplus (\mathbb{Z}_{11})^3$              |
| (11,11,6,12,27)    | $z_0^6 + z_1^6 + z_2^{11} + z_2 z_3^5 + z_3 z_4^2$             | BP + Chain    | 66  | 1625  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{22})^5$   |
| (17,17,6,24,39)    | $z_0^6 + z_1^6 + z_2^{17} + z_2 z_3^4 + z_3 z_4^2$             | BP + Chain    | 102 | 2100  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{34})^4 \oplus \mathbb{Z}_{17}$                  |

| Weights            | Polynomial   | Type          | $d$ | $\mu$ | $H_3(M, \mathbb{Z})$   |
|--------------------|--|---------------|-----|-------|--|
| (6,46,49,19,25)    | $z_0^{24} + z_0 z_1^3 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^5$     | Chain         | 144 | 2975  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{48}$                             |
| (49,21,6,47,25)    | $z_0^3 + z_1^7 + z_1 z_2^{21} + z_2 z_3^3 + z_3 z_4^4$         | BP + Chain    | 147 | 2928  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^3$                            |
| (87,29,29,6,24)    | $z_0^2 + z_1^6 + z_2^6 + z_3^{29} + z_3 z_4^7$                 | BP + Chain    | 174 | 4375  | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_2)^7$                            |
| (78,6,57,59,35)    | $z_0^3 + z_0 z_1^{26} + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^5$     | Chain         | 234 | 3980  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$            |
| (6,120,183,101,77) | $z_0^{81} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$     | Chain         | 486 | 8180  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{162} \oplus (\mathbb{Z}_2)^3$    |
| (9,27,7,14,7)      | $z_0^7 + z_0 z_1^2 + z_2^9 + z_2 z_3^4 + z_3 z_4^7$            | Chain + Chain | 63  | 1792  | $\mathbb{Z}^{48} \oplus (\mathbb{Z}_9)^2$                            |
| (8,12,9,13,7)      | $z_0^6 + z_1^4 + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^5$            | BP + Chain    | 48  | 1025  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{24}$                             |
| (8,36,9,7,13)      | $z_0^9 + z_1^2 + z_1 z_2^4 + z_2 z_3^9 + z_3 z_4^5$            | BP + Chain    | 72  | 2360  | $\mathbb{Z}^{32} \oplus \mathbb{Z}_9$                                |
| (7,8,11,13,25)     | $z_0^9 + z_0 z_1^7 + z_1 z_2^5 + z_2 z_3^4 + z_3 z_4^2$        | Chain         | 63  | 1520  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_9$                                |
| (16,8,7,19,15)     | $z_0^4 + z_0 z_1^6 + z_1 z_2^8 + z_2 z_3^3 + z_3 z_4^3$        | Chain         | 64  | 1323  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{32} \oplus (\mathbb{Z}_8)^2$     |
| (10,10,35,7,9)     | $z_0^7 + z_1^7 + z_2^2 + z_2 z_3^5 + z_3 z_4^7$                | BP + Chain    | 70  | 2196  | $\mathbb{Z}^{30} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^5$     |
| (7,10,20,25,9)     | $z_0^{10} + z_1^7 + z_1 z_2^3 + z_2 z_3^2 + z_3 z_4^5$         | BP + Chain    | 70  | 1647  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^3$                            |
| (9,18,7,37,11)     | $z_0^9 + z_0 z_1^4 + z_1 z_2^9 + z_2 z_3^2 + z_3 z_4^4$        | Chain         | 81  | 2240  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{81} \oplus (\mathbb{Z}_9)^3$     |
| (11,11,7,35,14)    | $z_0^7 + z_1^7 + z_2^{11} + z_2 z_3^2 + z_3 z_4^3$             | BP + Chain    | 77  | 1944  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{11})^6$                         |
| (15,12,16,11,7)    | $z_0^4 + z_1^5 + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^7$            | BP + Chain    | 60  | 1113  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_4$                                |
| (22,22,11,7,27)    | $z_0^4 + z_0 z_1^3 + z_1 z_2^6 + z_2 z_3^{11} + z_3 z_4^3$     | Chain         | 88  | 1647  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$        |
| (25,15,12,7,17)    | $z_0^3 + z_1^5 + z_1 z_2^5 + z_2 z_3^9 + z_3 z_4^4$            | BP + Chain    | 75  | 1392  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_3$                                |
| (35,7,21,12,31)    | $z_0^3 + z_1^{15} + z_2^5 + z_2 z_3^7 + z_3 z_4^3$             | BP + Chain    | 105 | 2072  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                                |
| (7,49,14,13,23)    | $z_0^{15} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^7 + z_3 z_4^4$     | Chain         | 105 | 2624  | $\mathbb{Z}^{30} \oplus \mathbb{Z}_{15}$                             |
| (25,15,31,23,7)    | $z_0^4 + z_0 z_1^5 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^{11}$     | Chain + Cycle | 100 | 1683  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{20}$                             |
| (40,16,43,31,7)    | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^{15}$ | Cycle + Cycle | 136 | 2430  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{136} \oplus \mathbb{Z}_8$        |
| (7,28,17,51,17)    | $z_0^{17} + z_0 z_1^4 + z_2^7 + z_2 z_3^2 + z_3 z_4^4$         | Chain + Chain | 119 | 2496  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_7)^4$                            |
| (20,60,35,7,19)    | $z_0^7 + z_0 z_1^2 + z_2^4 + z_2 z_3^{15} + z_3 z_4^7$         | Chain + Chain | 140 | 2904  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{28})^2 \oplus \mathbb{Z}_7$     |
| (20,20,31,23,7)    | $z_0^5 + z_1^5 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^{11}$         | BP + Cycle    | 100 | 1584  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{100} \oplus (\mathbb{Z}_{20})^3$ |
| (25,25,35,7,84)    | $z_0^7 + z_1^7 + z_2^5 + z_2 z_3^{20} + z_3 z_4^2$             | BP + Chain    | 175 | 3744  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^6$                            |
| (37,111,7,28,77)   | $z_0^7 + z_0 z_1^2 + z_2^{37} + z_2 z_3^9 + z_3 z_4^3$         | Chain + Chain | 259 | 5616  | $\mathbb{Z}^{36} \oplus (\mathbb{Z}_{37})^2$                         |
| (45,36,7,109,29)   | $z_0^5 + z_0 z_1^5 + z_1 z_2^{27} + z_2 z_3^2 + z_3 z_4^4$     | Chain         | 225 | 4704  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{45}$                             |
| (7,35,41,123,82)   | $z_0^{41} + z_0 z_1^8 + z_2^7 + z_2 z_3^2 + z_3 z_4^2$         | Chain + Chain | 287 | 5760  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_7)^8$                            |
| (91,91,7,38,47)    | $z_0^3 + z_0 z_1^2 + z_1 z_2^{26} + z_2 z_3^7 + z_3 z_4^5$     | Chain         | 273 | 4520  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{39} \oplus \mathbb{Z}_{13}$      |
| (40,80,7,91,63)    | $z_0^7 + z_0 z_1^3 + z_2^{40} + z_2 z_3^3 + z_3 z_4^3$         | Chain + Chain | 280 | 4185  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{40})^3$                         |
| (188,94,47,7,41)   | $z_0^2 + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^{47} + z_3 z_4^9$     | Chain         | 376 | 9045  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_4$                                |
| (46,46,161,7,63)   | $z_0^7 + z_1^7 + z_2^2 + z_2 z_3^{23} + z_3 z_4^5$             | BP + Chain    | 322 | 6660  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^6$                            |
| (7,63,46,92,115)   | $z_0^{46} + z_0 z_1^5 + z_2^7 + z_2 z_3^3 + z_3 z_4^2$         | Chain + Chain | 322 | 4995  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{14})^3$                         |
| (65,65,136,7,53)   | $z_0^5 + z_1^5 + z_4 z_2^2 + z_2 z_3^{27} + z_3 z_4^6$         | BP + Cycle    | 325 | 5184  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{325} \oplus (\mathbb{Z}_{65})^3$ |
| (65,195,7,56,133)  | $z_0^7 + z_0 z_1^2 + z_2^{65} + z_2 z_3^8 + z_3 z_4^3$         | Chain + Chain | 455 | 8832  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_{65})^2$                         |

| Weights             | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|---------------------|--|---------------|------|-------|--|
| (108,81,253,65,7)   | $z_1 z_0^4 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^4 + z_3 z_4^{64}$ | Cycle + Cycle | 513  | 10240 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{513} \oplus \mathbb{Z}_{27}$     |
| (92,276,69,7,109)   | $z_0^6 + z_1^2 + z_1 z_2^4 + z_2 z_3^{69} + z_3 z_4^5$         | BP + Chain    | 552  | 11075 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{24}$                             |
| (184,184,69,7,109)  | $z_0^3 + z_1^3 + z_2^8 + z_2 z_3^{69} + z_3 z_4^5$             | BP + Chain    | 552  | 8860  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_8)^2$                            |
| (205,205,123,76,7)  | $z_0^3 + z_1^3 + z_2^5 + z_4 z_3^8 + z_3 z_4^{77}$             | BP + Cycle    | 615  | 9856  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_5)^2$                            |
| (89,178,7,77,273)   | $z_0^7 + z_0 z_1^3 + z_2^{89} + z_2 z_3^8 + z_3 z_4^2$         | Chain + Chain | 623  | 12000 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{89})^3$                         |
| (160,120,211,143,7) | $z_0^4 + z_0 z_1^4 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^{71}$     | Chain + Cycle | 640  | 8307  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{160}$                            |
| (7,259,196,121,461) | $z_0^{149} + z_0 z_1^4 + z_1 z_2^4 + z_2 z_3^7 + z_3 z_4^2$    | Chain         | 1043 | 18624 | $\mathbb{Z}^{28} \oplus \mathbb{Z}_{149}$                            |
| (225,150,7,167,127) | $z_0^3 + z_0 z_1^3 + z_1 z_2^{75} + z_2 z_3^4 + z_3 z_4^4$     | Chain         | 675  | 8768  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{225}$                            |
| (325,130,461,7,183) | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^{92} + z_3 z_4^6$ | Cycle + Cycle | 1105 | 19872 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{1105} \oplus \mathbb{Z}_{65}$    |
| (12,8,15,9,17)      | $z_0^5 + z_0 z_1^6 + z_2^4 + z_2 z_3^5 + z_3 z_4^3$            | Chain + Chain | 60   | 1118  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_4)^2$                            |
| (15,9,18,8,41)      | $z_0^6 + z_1^{10} + z_2^5 + z_2 z_3^9 + z_3 z_4^2$             | BP + Chain    | 90   | 2205  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^3$        |
| (8,18,9,21,17)      | $z_0^9 + z_1^4 + z_1 z_2^6 + z_2 z_3^3 + z_3 z_4^3$            | BP + Chain    | 72   | 1320  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^3$                            |
| (21,9,28,8,19)      | $z_0^4 + z_0 z_1^7 + z_2^3 + z_2 z_3^7 + z_3 z_4^4$            | Chain + Chain | 84   | 1625  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{12}$                             |
| (8,10,35,15,13)     | $z_0^{10} + z_1^8 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$         | BP + Chain    | 80   | 1809  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_4$                                |
| (13,8,55,35,15)     | $z_1 z_0^9 + z_0 z_1^{14} + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^6$ | Cycle + Cycle | 125  | 3024  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{25}$                             |
| (13,26,8,61,23)     | $z_0^{10} + z_1^5 + z_1 z_2^{13} + z_2 z_3^2 + z_3 z_4^3$      | BP + Chain    | 130  | 2889  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{130} (\oplus 13)^3$              |
| (15,27,30,8,71)     | $z_0^{10} + z_0 z_1^5 + z_2^5 + z_2 z_3^{15} + z_3 z_4^2$      | Chain + Chain | 150  | 3239  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{50} \oplus (\mathbb{Z}_5)^3$     |
| (45,17,8,21,23)     | $z_4 z_0^2 + z_0 z_1^4 + z_1 z_2^{12} + z_2 z_3^5 + z_3 z_4^4$ | Cycle         | 113  | 1920  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{113}$                            |
| (85,17,34,8,27)     | $z_0^2 + z_1^{10} + z_2^5 + z_2 z_3^{17} + z_3 z_4^6$          | BP + Chain    | 170  | 3861  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_2$                                |
| (25,25,20,8,23)     | $z_0^4 + z_1^4 + z_2^5 + z_2 z_3^{10} + z_3 z_4^4$             | BP + Chain    | 100  | 1386  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{20})^2 \oplus \mathbb{Z}_5$     |
| (27,27,27,20,8)     | $z_0^4 + z_1^4 + z_2^4 + z_4 z_3^5 + z_3 z_4^{11}$             | BP + Cycle    | 108  | 1485  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_4)^3$                            |
| (88,8,21,31,29)     | $z_0^2 + z_0 z_1^{11} + z_1 z_2^8 + z_2 z_3^5 + z_3 z_4^5$     | Chain         | 176  | 3675  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{16}$                             |
| (8,100,25,35,33)    | $z_0^{25} + z_1^2 + z_1 z_2^4 + z_2 z_3^5 + z_3 z_4^5$         | BP + Chain    | 200  | 4008  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_5$                                |
| (35,25,42,8,101)    | $z_0^6 + z_0 z_1^7 + z_2^5 + z_2 z_3^{21} + z_3 z_4^2$         | Chain + Chain | 210  | 4033  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{10}$                             |
| (8,30,105,27,71)    | $z_0^{30} + z_1^8 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | BP + Chain    | 240  | 4901  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{20}$                             |
| (8,36,27,39,35)     | $z_0^{18} + z_1^4 + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^3$         | BP + Chain    | 144  | 1853  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{24}$                             |
| (81,81,27,8,47)     | $z_0^3 + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^{27} + z_3 z_4^5$     | Chain         | 243  | 3920  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_9 \oplus \mathbb{Z}_3$            |
| (45,45,97,8,31)     | $z_0^5 + z_1^5 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^7$         | BP + Cycle    | 225  | 3584  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{225} \oplus (\mathbb{Z}_{45})^3$ |
| (38,113,8,37,89)    | $z_0^8 + z_0 z_1^2 + z_2^{38} + z_2 z_3^8 + z_3 z_4^3$         | Chain + Chain | 304  | 5805  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{76}$                             |
| (39,91,8,38,137)    | $z_0^8 + z_0 z_1^3 + z_2^{39} + z_2 z_3^8 + z_3 z_4^2$         | Chain + Chain | 312  | 5950  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{26} \oplus \mathbb{Z}_2$         |
| (65,65,39,84,8)     | $z_0^4 + z_0 z_1^3 + z_1 z_2^5 + z_4 z_3^3 + z_3 z_4^{22}$     | Chain + Cycle | 260  | 3366  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{20})^2 \oplus \mathbb{Z}_5$     |
| (189,63,45,74,8)    | $z_0^2 + z_0 z_1^3 + z_1 z_2^7 + z_4 z_3^5 + z_3 z_4^{38}$     | Chain + Cycle | 378  | 7030  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$         |
| (75,45,100,8,73)    | $z_0^4 + z_0 z_1^5 + z_2^3 + z_2 z_3^{25} + z_3 z_4^4$         | Chain + Chain | 300  | 3859  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{12}$                             |
| (205,82,8,67,49)    | $z_0^2 + z_1^5 + z_1 z_2^{41} + z_2 z_3^6 + z_3 z_4^7$         | BP + Chain    | 410  | 7581  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_2$                                |
| (81,108,8,79,49)    | $z_0^4 + z_1^3 + z_1 z_2^{27} + z_2 z_3^4 + z_3 z_4^5$         | BP + Chain    | 324  | 4125  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_4$                                |

| Weights             | Polynomial  | Type          | $d$ | $\mu$ | $H_3(M, \mathbb{Z})$   |
|---------------------|---|---------------|-----|-------|--|
| (103,8,385,275,165) | $z_1 z_0^9 + z_0 z_1^{104} + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^4$ | Cycle + Cycle | 935 | 14976 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{17}$                             |
| (8,170,259,143,109) | $z_0^{86} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$      | Chain         | 688 | 8685  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{172}$                            |
| (9,9,12,23,29)      | $z_0^9 + z_0 z_1^8 + z_1 z_2^6 + z_2 z_3^3 + z_3 z_4^2$         | Chain         | 81  | 1664  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{27} \oplus (\mathbb{Z}_3)^7$     |
| (10,10,15,9,17)     | $z_0^6 + z_1^6 + z_2^4 + z_2 z_3^5 + z_3 z_4^3$                 | BP + Chain    | 60  | 1075  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{12} \oplus (\mathbb{Z}_2)^4$     |
| (11,44,9,15,21)     | $z_0^9 + z_0 z_1^2 + z_2^{11} + z_2 z_3^6 + z_3 z_4^4$          | Chain + Chain | 99  | 2080  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{11})^2$                         |
| (9,27,18,11,53)     | $z_0^{13} + z_0 z_1^4 + z_1 z_2^5 + z_2 z_3^9 + z_3 z_4^2$      | Chain         | 117 | 2560  | $\mathbb{Z}^{36} \oplus \mathbb{Z}_{13}$                             |
| (14,35,12,9,15)     | $z_0^6 + z_0 z_1^2 + z_2^7 + z_2 z_3^8 + z_3 z_4^5$             | Chain + Chain | 84  | 1610  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_7$                                |
| (9,15,12,29,35)     | $z_0^{11} + z_0 z_1^6 + z_1 z_2^7 + z_2 z_3^3 + z_3 z_4^2$      | Chain         | 99  | 1792  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{11}$                             |
| (35,35,15,9,12)     | $z_0^3 + z_1^3 + z_2^7 + z_2 z_3^{10} + z_3 z_4^8$              | BP + Chain    | 105 | 1984  | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_7)^2$                            |
| (9,27,12,41,47)     | $z_0^{15} + z_1^5 + z_1 z_2^9 + z_2 z_3^3 + z_3 z_4^2$          | BP + Chain    | 135 | 2464  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{15} \oplus (\mathbb{Z}_3)^3$     |
| (14,28,63,9,13)     | $z_0^9 + z_0 z_1^4 + z_2^2 + z_2 z_3^7 + z_3 z_4^9$             | Chain + Chain | 126 | 3164  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{18} \oplus (\mathbb{Z}_2)^3$     |
| (9,14,56,35,13)     | $z_0^{14} + z_1^9 + z_1 z_2^2 + z_2 z_3^2 + z_3 z_4^7$          | BP + Chain    | 126 | 2938  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^2$                            |
| (27,9,17,16,13)     | $z_0^3 + z_1^9 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^5$             | BP + Cycle    | 81  | 1280  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_9$         |
| (41,9,13,20,31)     | $z_4 z_0^2 + z_0 z_1^8 + z_1 z_2^8 + z_2 z_3^5 + z_3 z_4^3$     | Cycle         | 113 | 1920  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{113}$                            |
| (44,23,9,13,25)     | $z_4 z_0^2 + z_0 z_1^3 + z_1 z_2^{10} + z_2 z_3^8 + z_3 z_4^4$  | Cycle         | 113 | 1920  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{113}$                            |
| (49,14,71,9,19)     | $z_1 z_0^3 + z_0 z_1^8 + z_4 z_2^2 + z_2 z_3^{10} + z_3 z_4^8$  | Cycle + Cycle | 161 | 3840  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{161} \oplus \mathbb{Z}_7$        |
| (9,27,15,17,50)     | $z_0^{13} + z_0 z_1^4 + z_1 z_2^6 + z_2 z_3^6 + z_3 z_4^2$      | Chain         | 117 | 2144  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{39} \oplus (\mathbb{Z}_3)^3$     |
| (81,27,9,17,29)     | $z_0^2 + z_0 z_1^3 + z_1 z_2^{15} + z_2 z_3^9 + z_3 z_4^5$      | Chain         | 162 | 3325  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_6$                                |
| (54,54,9,17,29)     | $z_0^3 + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^9 + z_3 z_4^5$      | Chain         | 162 | 2660  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{18} \oplus \mathbb{Z}_6$         |
| (9,63,18,20,89)     | $z_0^{22} + z_0 z_1^3 + z_2^{11} + z_2 z_3^9 + z_3 z_4^2$       | Chain + Chain | 198 | 4905  | $\mathbb{Z}^{42} \oplus \mathbb{Z}_{22}$                             |
| (9,21,56,19,85)     | $z_0^{21} + z_1^9 + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$          | BP + Chain    | 189 | 4160  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{63} \oplus \mathbb{Z}_3$         |
| (20,25,30,9,37)     | $z_0^6 + z_0 z_1^4 + z_2^4 + z_2 z_3^{10} + z_3 z_4^3$          | Chain + Chain | 120 | 1577  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{12}$                             |
| (20,80,45,27,9)     | $z_0^9 + z_0 z_1^2 + z_2^4 + z_2 z_3^5 + z_3 z_4^{17}$          | Chain + Chain | 180 | 3230  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_4)^2$                            |
| (22,88,9,21,59)     | $z_0^9 + z_0 z_1^2 + z_2^{22} + z_2 z_3^9 + z_3 z_4^3$          | Chain + Chain | 198 | 4170  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{66})^2 \oplus \mathbb{Z}_3$     |
| (66,44,9,21,59)     | $z_0^3 + z_0 z_1^3 + z_2^{22} + z_2 z_3^9 + z_3 z_4^3$          | Chain + Chain | 198 | 2919  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{22}$                             |
| (23,23,9,99,54)     | $z_0^9 + z_1^9 + z_2^{23} + z_2 z_3^2 + z_3 z_4^2$              | BP + Chain    | 207 | 4352  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{23})^8$                         |
| (42,42,9,53,23)     | $z_0^4 + z_0 z_1^3 + z_1 z_2^{14} + z_2 z_3^3 + z_3 z_4^5$      | Chain         | 168 | 2175  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{56} \oplus (\mathbb{Z}_{14})^2$  |
| (23,115,46,9,61)    | $z_0^{11} + z_0 z_1^2 + z_1 z_2^3 + z_2 z_3^{23} + z_3 z_4^4$   | Chain         | 253 | 4608  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{11}$                             |
| (70,35,30,9,67)     | $z_0^3 + z_1^6 + z_2^7 + z_2 z_3^{20} + z_3 z_4^3$              | BP + Chain    | 210 | 2860  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2$                         |
| (38,152,9,111,33)   | $z_0^9 + z_0 z_1^2 + z_2^{38} + z_2 z_3^3 + z_3 z_4^7$          | Chain + Chain | 342 | 7210  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{38})^2$                         |
| (85,34,127,9,35)    | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^{18} + z_3 z_4^8$  | Cycle + Cycle | 289 | 5184  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{289} \oplus \mathbb{Z}_{17}$     |
| (9,36,87,35,131)    | $z_0^{33} + z_0 z_1^8 + z_1 z_2^3 + z_2 z_3^6 + z_3 z_4^2$      | Chain         | 297 | 5312  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{99} \oplus (\mathbb{Z}_3)^7$     |
| (9,153,35,70,49)    | $z_0^{35} + z_0 z_1^2 + z_2^9 + z_2 z_3^4 + z_3 z_4^5$          | Chain + Chain | 315 | 5472  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{45})^2 \oplus (\mathbb{Z}_5)^2$ |
| (9,117,120,8,35)    | $z_0^{40} + z_0 z_1^3 + z_2^3 + z_2 z_3^3 + z_3 z_4^8$          | Chain + Chain | 360 | 5265  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{24} \oplus (\mathbb{Z}_3)^2$     |
| (91,91,39,9,44)     | $z_0^3 + z_1^3 + z_2^7 + z_2 z_3^{26} + z_3 z_4^6$              | BP + Chain    | 273 | 3664  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2$                         |

| Weights             | Polynomial  | Type               | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|---------------------|---|--------------------|------|-------|---|
| (141,47,47,39,9)    | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^7 + z_3 z_4^{27}$                | BP + Cycle         | 282  | 4725  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_2$                                   |
| (94,94,47,39,9)     | $z_0^3 + z_1^3 + z_2^6 + z_4 z_3^7 + z_3 z_4^{27}$                | BP + Cycle         | 282  | 3780  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_6)^2 \oplus \mathbb{Z}_3$           |
| (9,147,50,40,205)   | $z_0^{50} + z_0 z_1^3 + z_2^9 + z_2 z_3^{10} + z_3 z_4^2$         | Chain + Chain      | 450  | 9898  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$               |
| (50,200,45,9,147)   | $z_0^9 + z_0 z_1^2 + z_2^{10} + z_2 z_3^{45} + z_3 z_4^3$         | Chain + Chain      | 450  | 9090  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{30})^2 \oplus (\mathbb{Z}_3)^7$    |
| (50,200,9,63,129)   | $z_0^9 + z_0 z_1^2 + z_2^{50} + z_2 z_3^7 + z_3 z_4^3$            | Chain + Chain      | 450  | 7490  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{150})^2 \oplus (\mathbb{Z}_3)^5$   |
| (62,124,155,9,85)   | $z_0^7 + z_0 z_1^3 + z_1 z_2^2 + z_2 z_3^{31} + z_3 z_4^5$        | Chain              | 434  | 5235  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^2$        |
| (9,63,213,71,284)   | $z_0^{71} + z_0 z_1^{10} + z_2^3 + z_2 z_3^6 + z_3 z_4^2$         | Chain + Chain      | 639  | 12800 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_3)^{10}$                            |
| (9,267,90,80,365)   | $z_0^{90} + z_0 z_1^3 + z_2^9 + z_2 z_3^9 + z_3 z_4^2$            | Chain + Chain      | 810  | 16109 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{54} \oplus (\mathbb{Z}_3)^7$        |
| (235,470,94,9,133)  | $z_0^4 + z_1^2 + z_1 z_2^5 + z_2 z_3^{94} + z_3 z_4^7$            | BP + Chain         | 940  | 16947 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{20}$                                |
| (100,350,9,113,229) | $z_0^8 + z_0 z_1^2 + z_1 z_2^{50} + z_2 z_3^7 + z_3 z_4^3$        | Chain              | 800  | 11991 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{400}$                               |
| (101,404,9,225,171) | $z_0^9 + z_0 z_1^2 + z_2^{101} + z_2 z_3^4 + z_3 z_4^4$           | Chain + Chain      | 909  | 13120 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{101})^2$                           |
| (119,238,365,9,103) | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{52} + z_3 z_4^8$        | Chain + Cycle      | 833  | 12480 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{833} \oplus (\mathbb{Z}_{119})^2$   |
| (381,9,126,113,515) | $z_0^3 + z_1^{127} + z_1 z_2^9 + z_2 z_3^9 + z_3 z_4^2$           | BP + Chain         | 1143 | 22608 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^9$                               |
| (9,142,229,529,379) | $z_0^{143} + z_0 z_1^9 + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$       | Chain              | 1287 | 18160 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{143}$                               |
| (9,174,467,277,649) | $z_0^{157} + z_0 z_1^9 + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^2$       | Chain              | 1575 | 22224 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{525} \oplus (\mathbb{Z}_3)^2$       |
| (9,291,488,181,787) | $z_0^{195} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$       | Chain              | 1755 | 27104 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{585} \oplus \mathbb{Z}_3$           |
| (45,10,67,13,11)    | $z_1 z_0^3 + z_0 z_1^{10} + z_4 z_2^2 + z_2 z_3^6 + z_3 z_4^{12}$ | Cycle + Cycle      | 145  | 4320  | $\mathbb{Z}^{28} \oplus \mathbb{Z}_{145} \oplus \mathbb{Z}_5$           |
| (10,14,63,11,43)    | $z_0^{14} + z_1^{10} + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$         | BP + Chain         | 140  | 3783  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{28}$                                |
| (65,13,13,10,30)    | $z_0^2 + z_1^{10} + z_2^{10} + z_3^{13} + z_3 z_4^4$              | BP + Chain         | 130  | 3240  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_2)^4$                               |
| (13,13,10,60,35)    | $z_0^{10} + z_1^{10} + z_2^{13} + z_2 z_3^2 + z_3 z_4^2$          | BP + Chain         | 130  | 3078  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{26})^2 \oplus (\mathbb{Z}_{13})^7$ |
| (17,51,10,16,77)    | $z_0^{10} + z_0 z_1^3 + z_2^{17} + z_2 z_3^{10} + z_3 z_4^2$      | Chain + Chain      | 170  | 3906  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{34})^2 \oplus \mathbb{Z}_{17}$     |
| (17,17,17,25,10)    | $z_0^5 + z_1^5 + z_2^5 + z_4 z_3^3 + z_3 z_4^6$                   | BP + Cycle         | 85   | 1152  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^2$                               |
| (17,85,17,10,59)    | $z_0^{11} + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^{17} + z_3 z_4^3$     | Chain              | 187  | 4608  | $\mathbb{Z}^{34} \oplus \mathbb{Z}_{11}$                                |
| (19,57,10,20,85)    | $z_0^{10} + z_0 z_1^3 + z_2^{19} + z_2 z_3^9 + z_3 z_4^2$         | Chain + Chain      | 190  | 3969  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{38})^3 \oplus (\mathbb{Z}_2)^6$    |
| (21,21,35,10,19)    | $z_0^5 + z_1^5 + z_2^3 + z_2 z_3^7 + z_3 z_4^5$                   | BP + Chain         | 105  | 1376  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{15} \oplus (\mathbb{Z}_3)^3$        |
| (80,10,25,27,19)    | $z_0^2 + z_0 z_1^8 + z_1 z_2^6 + z_2 z_3^5 + z_3 z_4^7$           | Chain              | 160  | 2961  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_4$                                   |
| (85,10,32,23,21)    | $z_0^2 + z_1^{17} + z_1 z_2^5 + z_2 z_3^6 + z_3 z_4^7$            | BP + Chain         | 170  | 3129  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_2$                                   |
| (55,22,99,10,35)    | $z_0^4 + z_1^{10} + z_1 z_2^2 + z_3^{22} + z_3 z_4^6$             | BP + Chain + Chain | 220  | 3663  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_4$                                   |
| (29,87,10,140,25)   | $z_0^{10} + z_0 z_1^3 + z_2^{29} + z_2 z_3^2 + z_3 z_4^6$         | Chain + Chain      | 290  | 6678  | $\mathbb{Z}^{224} \oplus (\mathbb{Z}_{58})^2 \oplus \mathbb{Z}_{29}$    |
| (25,10,63,131,97)   | $z_0^{13} + z_0 z_1^{30} + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$     | Chain              | 325  | 5472  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{65} \oplus (\mathbb{Z}_5)^5$        |
| (10,160,33,27,101)  | $z_0^{33} + z_0 z_1^2 + z_2^{10} + z_2 z_3^{11} + z_3 z_4^3$      | Chain + Chain      | 330  | 7786  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{30} \oplus \mathbb{Z}_{10}$         |
| (29,87,10,40,125)   | $z_0^{10} + z_0 z_1^3 + z_2^{29} + z_2 z_3^7 + z_3 z_4^2$         | Chain + Chain      | 290  | 4851  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{58})^3 \oplus (\mathbb{Z}_2)^4$    |
| (10,68,175,35,63)   | $z_0^{35} + z_0 z_1^5 + z_2^2 + z_2 z_3^5 + z_3 z_4^5$            | Chain + Chain      | 350  | 5781  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_2$                                   |
| (95,190,10,37,49)   | $z_0^4 + z_1^2 + z_1 z_2^{19} + z_2 z_3^{10} + z_3 z_4^7$         | BP + Chain         | 380  | 6951  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{76}$                                |
| (39,117,130,10,95)  | $z_0^{10} + z_0 z_1^3 + z_2^3 + z_2 z_3^{26} + z_3 z_4^4$         | Chain + Chain      | 390  | 4956  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_6)^2 \oplus \mathbb{Z}_3$           |

| Weights              | Polynomial  | Type               | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|----------------------|---|--------------------|------|-------|--|
| (10,40,245,49,147)   | $z_0^{49} + z_0 z_1^{12} + z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain      | 490  | 11340 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^{12}$                         |
| (10,60,185,49,127)   | $z_0^{43} + z_0 z_1^7 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$        | Chain              | 430  | 6363  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{86} \oplus (\mathbb{Z}_2)^6$     |
| (49,147,10,80,205)   | $z_0^{10} + z_0 z_1^3 + z_2^{49} + z_2 z_3^6 + z_3 z_4^2$         | Chain + Chain      | 490  | 7182  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{98})^3 \oplus (\mathbb{Z}_2)^3$ |
| (407,237,161,10,67)  | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{72} + z_3 z_4^{13}$ | Cycle              | 881  | 14976 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{881}$                            |
| (68,153,10,335,115)  | $z_0^{10} + z_0 z_1^4 + z_2^{68} + z_2 z_3^2 + z_3 z_4^3$         | Chain + Chain      | 680  | 10509 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{68}$                             |
| (10,164,333,71,253)  | $z_0^{83} + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$        | Chain              | 830  | 12117 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{166}$                            |
| (75,10,163,331,247)  | $z_0^{11} + z_0 z_1^{75} + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$     | Chain              | 825  | 11560 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{55} \oplus (\mathbb{Z}_5)^4$     |
| (10,80,445,89,267)   | $z_0^{89} + z_0 z_1^{11} + z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain      | 890  | 18711 | $\mathbb{Z}^{22} \oplus (\mathbb{Z}_2)^{11}$                         |
| (495,165,10,98,223)  | $z_0^2 + z_1^6 + z_2^{99} + z_2 z_3^{10} + z_3 z_4^4$             | BP + Chain         | 990  | 15340 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{66} \oplus \mathbb{Z}_2$         |
| (10,540,275,163,103) | $z_0^{109} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^9$       | Chain              | 1090 | 17766 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{218} \oplus \mathbb{Z}_2$        |
| (605,10,120,109,367) | $z_0^2 + z_1^{121} + z_1 z_2^{10} + z_2 z_3^{10} + z_3 z_4^3$     | BP + Chain         | 990  | 15340 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{66} \oplus \mathbb{Z}_2$         |
| (187,561,119,10,433) | $z_0^7 + z_0 z_1^2 + z_2^{11} + z_2 z_3^{119} + z_3 z_4^3$        | Chain + Chain      | 1309 | 21024 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{11})^2$                         |
| (142,639,10,235,395) | $z_0^{10} + z_0 z_1^2 + z_2^{142} + z_2 z_3^6 + z_3 z_4^3$        | Chain + Chain      | 1420 | 20295 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{284}$                            |
| (255,425,10,152,689) | $z_0^6 + z_0 z_1^3 + z_2^{153} + z_2 z_3^{10} + z_3 z_4^2$        | Chain + Chain      | 1530 | 21866 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{102} \oplus \mathbb{Z}_2$        |
| (10,240,605,169,427) | $z_0^{145} + z_0 z_1^6 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$       | Chain              | 1450 | 18414 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{290} \oplus (\mathbb{Z}_2)^5$    |
| (623,267,801,169,10) | $z_0^3 + z_1^7 + z_1 z_2^2 + z_4 z_3^{11} + z_3 z_4^{170}$        | BP + Chain + Cycle | 1869 | 29920 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_3)^2$                            |
| (13,65,11,44,11)     | $z_0^{11} + z_0 z_1^2 + z_2^{13} + z_2 z_3^3 + z_3 z_4^9$         | Chain + Chain      | 143  | 3888  | $\mathbb{Z}^{48} \oplus (\mathbb{Z}_{13})^2$                         |
| (33,11,11,27,18)     | $z_0^3 + z_1^9 + z_2^9 + z_4 z_3^3 + z_3 z_4^4$                   | BP + Cycle         | 99   | 1536  | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_3)^2$                            |
| (14,70,11,13,47)     | $z_0^{11} + z_0 z_1^2 + z_2^{14} + z_2 z_3^{11} + z_3 z_4^3$      | Chain + Chain      | 154  | 3852  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{14})^2$                         |
| (13,52,79,15,11)     | $z_0^{13} + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^6 + z_3 z_4^{14}$     | Chain + Cycle      | 169  | 4536  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{169} \oplus (\mathbb{Z}_{13})^2$ |
| (48,13,25,11,17)     | $z_4 z_0^2 + z_0 z_1^5 + z_1 z_2^4 + z_2 z_3^8 + z_3 z_4^6$       | Cycle              | 113  | 1920  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{113}$                            |
| (13,65,11,33,22)     | $z_0^{11} + z_0 z_1^2 + z_2^{13} + z_2 z_3^4 + z_3 z_4^5$         | Chain + Chain      | 143  | 2640  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_{13})^2$                         |
| (78,26,13,11,29)     | $z_0^2 + z_0 z_1^3 + z_1 z_2^{10} + z_2 z_3^{13} + z_3 z_4^5$     | Chain              | 156  | 3175  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_4$                                |
| (52,52,13,11,29)     | $z_0^3 + z_0 z_1^2 + z_1 z_2^8 + z_2 z_3^{13} + z_3 z_4^5$        | Chain              | 156  | 2540  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{12} \oplus \mathbb{Z}_4$         |
| (49,14,73,11,15)     | $z_1 z_0^3 + z_0 z_1^8 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{10}$    | Cycle + Cycle      | 161  | 3840  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{161} \oplus \mathbb{Z}_7$        |
| (63,14,16,11,23)     | $z_0^2 + z_1^9 + z_1 z_2^7 + z_2 z_3^{10} + z_3 z_4^5$            | BP + Chain         | 126  | 2575  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_2$                                |
| (15,30,33,11,77)     | $z_0^{11} + z_0 z_1^5 + z_2^5 + z_2 z_3^{12} + z_3 z_4^2$         | Chain + Chain      | 165  | 2880  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_5)^5$                            |
| (77,11,21,105,18)    | $z_0^3 + z_1^{21} + z_2^{11} + z_2 z_3^2 + z_3 z_4^7$             | BP + Chain         | 231  | 5680  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{11})^2$                         |
| (11,66,19,95,19)     | $z_0^{19} + z_0 z_1^3 + z_2^{11} + z_2 z_3^2 + z_3 z_4^6$         | Chain + Chain      | 209  | 4680  | $\mathbb{Z}^{30} \oplus (\mathbb{Z}_{11})^3$                         |
| (11,121,78,25,19)    | $z_0^{23} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{12}$     | Chain + Cycle      | 253  | 6048  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{253} \oplus \mathbb{Z}_{11}$     |
| (24,120,33,77,11)    | $z_0^{11} + z_0 z_1^2 + z_2^8 + z_2 z_3^3 + z_3 z_4^{17}$         | Chain + Chain      | 264  | 4692  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_8)^2$                            |
| (27,135,99,11,26)    | $z_0^{11} + z_0 z_1^2 + z_2^3 + z_2 z_3^{18} + z_3 z_4^{11}$      | Chain + Chain      | 297  | 6504  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{33})^2$                         |
| (26,52,143,11,55)    | $z_0^{11} + z_0 z_1^5 + z_2^2 + z_2 z_3^{13} + z_3 z_4^5$         | Chain + Chain      | 286  | 4725  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_2)^5$                            |
| (11,143,27,27,90)    | $z_0^{27} + z_0 z_1^2 + z_2^{11} + z_2 z_3^{10} + z_3 z_4^3$      | Chain + Chain      | 297  | 6440  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{33})^2 \oplus (\mathbb{Z}_3)^8$ |
| (45,36,27,11,107)    | $z_0^5 + z_0 z_1^5 + z_1 z_2^7 + z_2 z_3^{18} + z_3 z_4^2$        | Chain              | 225  | 3304  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_5$                                |

| Weights                | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|------------------------|--|---------------|------|-------|--|
| (27,45,39,41,11)       | $z_0^6 + z_0 z_1^3 + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^{11}$     | Chain         | 162  | 1661  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{18}$                             |
| (65,65,157,28,11)      | $z_0^5 + z_1^5 + z_4 z_2^2 + z_2 z_3^6 + z_3 z_4^{27}$         | BP + Cycle    | 325  | 5184  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{325} \oplus (\mathbb{Z}_{65})^3$ |
| (11,77,29,145,58)      | $z_0^{29} + z_0 z_1^4 + z_2^{11} + z_2 z_3^2 + z_3 z_4^3$      | Chain + Chain | 319  | 4752  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{11})^4$                         |
| (29,58,11,183,97)      | $z_0^{13} + z_0 z_1^6 + z_1 z_2^{29} + z_2 z_3^2 + z_3 z_4^2$  | Chain         | 377  | 6720  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{377} \oplus (\mathbb{Z}_{29})^5$ |
| (32,144,11,103,31)     | $z_0^{10} + z_0 z_1^2 + z_1 z_2^{16} + z_2 z_3^3 + z_3 z_4^7$  | Chain         | 320  | 6069  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{160}$                            |
| (89,89,47,11,32)       | $z_0^3 + z_1^3 + z_4 z_2^5 + z_2 z_3^{20} + z_3 z_4^8$         | BP + Cycle    | 267  | 3200  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{267} \oplus \mathbb{Z}_{89}$     |
| (38,38,171,11,123)     | $z_0^{10} + z_0 z_1^9 + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^3$  | Chain         | 380  | 6939  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{20} \oplus (\mathbb{Z}_2)^8$     |
| (147,42,199,11,43)     | $z_0^3 + z_0 z_1^7 + z_4 z_2^2 + z_2 z_3^{22} + z_3 z_4^{10}$  | Chain + Cycle | 441  | 8360  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{63}$                             |
| (63,126,199,11,43)     | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{22} + z_3 z_4^{10}$  | Chain + Cycle | 441  | 6600  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{441} \oplus (\mathbb{Z}_{63})^2$ |
| (64,64,69,11,49)       | $z_0^4 + z_1^4 + z_4 z_2^3 + z_2 z_3^{17} + z_3 z_4^5$         | BP + Cycle    | 256  | 2295  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{256} \oplus (\mathbb{Z}_{64})^2$    |
| (11,88,49,245,147)     | $z_0^{49} + z_0 z_1^6 + z_2^{11} + z_2 z_3^2 + z_3 z_4^2$      | Chain + Chain | 539  | 7872  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{11})^6$                         |
| (54,180,297,11,53)     | $z_0^{11} + z_0 z_1^3 + z_2^2 + z_2 z_3^{27} + z_3 z_4^{11}$   | Chain + Chain | 594  | 12443 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{22}$                             |
| (11,341,63,210,69)     | $z_0^{63} + z_0 z_1^2 + z_2^{11} + z_2 z_3^3 + z_3 z_4^7$      | Chain + Chain | 693  | 13312 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{77} \oplus \mathbb{Z}_{11}$      |
| (79,395,11,143,242)    | $z_0^{11} + z_0 z_1^2 + z_2^{79} + z_2 z_3^6 + z_3 z_4^3$      | Chain + Chain | 869  | 12312 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{79})^2$                         |
| (87,348,145,11,193)    | $z_0^9 + z_0 z_1^2 + z_1 z_2^3 + z_2 z_3^{58} + z_3 z_4^4$     | Chain         | 783  | 9440  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_3$         |
| (87,145,11,473,242)    | $z_0^{11} + z_0 z_1^6 + z_2^{87} + z_2 z_3^2 + z_3 z_4^2$      | Chain + Chain | 957  | 14560 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{29})^2$                         |
| (325,130,547,93,11)    | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^6 + z_3 z_4^{92}$ | Cycle + Cycle | 1105 | 19872 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{1105} \oplus \mathbb{Z}_{65}$    |
| (539,11,97,109,323)    | $z_0^2 + z_0 z_1^{49} + z_1 z_2^{11} + z_2 z_3^9 + z_3 z_4^3$  | Chain         | 1078 | 20385 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{22}$                             |
| (770,154,11,139,467)   | $z_0^2 + z_0 z_1^5 + z_1 z_2^{126} + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 1540 | 28971 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{28}$                             |
| (308,616,11,139,467)   | $z_0^5 + z_0 z_1^2 + z_1 z_2^{84} + z_2 z_3^{11} + z_3 z_4^3$  | Chain         | 1540 | 19314 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{140} \oplus \mathbb{Z}_{28}$     |
| (145,725,319,11,396)   | $z_0^{11} + z_0 z_1^2 + z_2^5 + z_2 z_3^{116} + z_3 z_4^4$     | Chain + Chain | 1595 | 20928 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^2$                            |
| (156,780,429,11,341)   | $z_0^{11} + z_0 z_1^2 + z_2^4 + z_2 z_3^{117} + z_3 z_4^5$     | Chain + Chain | 1716 | 22500 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_4)^2$                            |
| (567,189,766,11,169)   | $z_0^3 + z_1^9 + z_4 z_2^2 + z_2 z_3^{85} + z_3 z_4^{10}$      | BP + Cycle    | 1701 | 27200 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{567} \oplus \mathbb{Z}_{189}$    |
| (11,209,1155,687,458)  | $z_0^{229} + z_0 z_1^{12} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^4$ | Chain + Cycle | 2519 | 35712 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{229})^2$                        |
| (11,1331,297,216,819)  | $z_0^{243} + z_0 z_1^2 + z_2^9 + z_2 z_3^{11} + z_3 z_4^3$     | Chain + Chain | 2673 | 50264 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{27}$                             |
| (11,1111,418,266,1539) | $z_0^{304} + z_0 z_1^3 + z_2^8 + z_2 z_3^{11} + z_3 z_4^2$     | Chain + Chain | 3344 | 57855 | $\mathbb{Z}^{30} \oplus \mathbb{Z}_{16}$                             |
| (1529,11,572,365,2111) | $z_0^3 + z_0 z_1^{278} + z_1 z_2^8 + z_2 z_3^{11} + z_3 z_2^3$ | Chain         | 4587 | 79232 | $\mathbb{Z}^{30} \oplus \mathbb{Z}_3$                                |
| (2629,11,583,425,1611) | $z_0^2 + z_0 z_1^{239} + z_1 z_2^9 + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 5258 | 98469 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_2$                                |
| (15,12,65,13,91)       | $z_0^{13} + z_0 z_1^{15} + z_2^3 + z_2 z_3^{10} + z_3 z_4^2$   | Chain + Chain | 195  | 5856  | $\mathbb{Z}^{30} \oplus (\mathbb{Z}_3)^3$                            |
| (45,27,12,14,83)       | $z_0^4 + z_0 z_1^5 + z_2^{15} + z_2 z_3^{12} + z_3 z_4^2$      | Chain + Chain | 180  | 3298  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$            |
| (12,126,33,77,17)      | $z_0^{22} + z_0 z_1^2 + z_2^8 + z_2 z_3^3 + z_3 z_4^{11}$      | Chain + Chain | 264  | 5681  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{44}$                             |
| (87,29,29,18,12)       | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^9 + z_3 z_4^{13}$             | BP + Cycle    | 174  | 2925  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_2)^5$                            |
| (35,21,147,12,101)     | $z_0^9 + z_1^{15} + z_1 z_2^2 + z_2 z_3^{14} + z_3 z_4^3$      | BP + Chain    | 315  | 6848  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                                |
| (12,80,63,21,77)       | $z_0^{21} + z_0 z_1^3 + z_2^4 + z_2 z_3^9 + z_3 z_4^3$         | Chain + Chain | 252  | 3225  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_4$                                |
| (89,89,51,27,12)       | $z_0^3 + z_1^3 + z_4 z_2^5 + z_2 z_3^8 + z_3 z_4^{20}$         | BP + Cycle    | 267  | 3200  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{89})^2$                         |

| Weights              | Polynomial  | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|----------------------|---|---------------|------|-------|---|
| (12,30,75,35,29)     | $z_0^{15} + z_1^6 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$            | BP + Chain    | 180  | 2114  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$               |
| (35,35,30,12,99)     | $z_0^6 + z_1^6 + z_2^7 + z_2 z_3^{15} + z_3 z_4^2$                | BP + Chain    | 210  | 2775  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{14})^3 \oplus (\mathbb{Z}_7)^2$    |
| (221,34,12,43,133)   | $z_0^2 + z_1^{13} + z_1 z_2^{34} + z_2 z_3^{10} + z_3 z_4^3$      | BP + Chain    | 442  | 9270  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_2)^2$                               |
| (105,35,63,12,101)   | $z_0^3 + z_1^9 + z_2^5 + z_2 z_3^{21} + z_3 z_4^3$                | BP + Chain    | 315  | 3424  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_5)^2$                               |
| (145,145,87,12,47)   | $z_0^3 + z_1^3 + z_2^5 + z_2 z_3^{29} + z_3 z_4^9$                | BP + Chain    | 435  | 4656  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{15} \oplus \mathbb{Z}_5$            |
| (195,65,65,54,12)    | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^7 + z_3 z_4^{28}$                | BP + Cycle    | 390  | 4900  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^4$                               |
| (12,164,63,147,119)  | $z_0^{42} + z_0 z_1^3 + z_2^8 + z_2 z_3^3 + z_3 z_4^3$            | Chain + Chain | 504  | 4675  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_8$                                   |
| (176,12,129,133,79)  | $z_0^3 + z_1^{44} + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^5$            | BP + Chain    | 528  | 4490  | $\mathbb{Z}^8 \oplus \mathbb{Z}_3$                                      |
| (12,270,411,227,173) | $z_0^{91} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$        | Chain         | 1092 | 9190  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{182} \oplus \mathbb{Z}_2$              |
| (65,13,13,15,90)     | $z_0^3 + z_1^{15} + z_2^{15} + z_3^{13} + z_3 z_4^2$              | BP + Chain    | 195  | 5488  | $\mathbb{Z}^{52} \oplus (\mathbb{Z}_3)^2$                               |
| (75,15,106,17,13)    | $z_0^3 + z_1^{15} + z_4 z_2^2 + z_2 z_3^7 + z_3 z_4^{16}$         | BP + Cycle    | 225  | 6272  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{45} \oplus \mathbb{Z}_{15}$         |
| (13,91,15,18,59)     | $z_0^{15} + z_0 z_1^2 + z_2^{13} + z_2 z_3^{10} + z_3 z_4^3$      | Chain + Chain | 195  | 4352  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{39})^2$                            |
| (92,46,19,15,13)     | $z_0^2 + z_1^4 + z_4 z_2^9 + z_2 z_3^{11} + z_3 z_4^{13}$         | BP + Cycle    | 184  | 3861  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{92}$                                |
| (45,45,106,17,13)    | $z_0^5 + z_1^5 + z_4 z_2^2 + z_2 z_3^7 + z_3 z_4^{16}$            | BP + Cycle    | 225  | 3584  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{225} \oplus (\mathbb{Z}_{45})^3$    |
| (17,136,69,55,13)    | $z_0^{17} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{18}$     | Chain + Cycle | 289  | 5184  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{289} \oplus \mathbb{Z}_{17}$        |
| (93,31,124,19,13)    | $z_0^3 + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^{14} + z_3 z_4^{20}$     | Chain + Cycle | 279  | 5600  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_3$                                   |
| (93,93,62,19,13)     | $z_0^3 + z_0 z_1^2 + z_1 z_2^3 + z_4 z_3^{14} + z_3 z_4^{20}$     | Chain + Cycle | 279  | 3920  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_9 \oplus \mathbb{Z}_3$               |
| (103,13,20,71,27)    | $z_4 z_0^2 + z_0 z_1^{10} + z_1 z_2^{11} + z_2 z_3^3 + z_3 z_4^6$ | Cycle         | 233  | 3960  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{233}$                               |
| (22,88,143,13,21)    | $z_0^{13} + z_0 z_1^3 + z_2^2 + z_2 z_3^{11} + z_3 z_4^{13}$      | Chain + Chain | 286  | 7155  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_{26} \oplus (\mathbb{Z}_2)^2$        |
| (13,65,21,126,49)    | $z_0^{21} + z_0 z_1^4 + z_2^{13} + z_2 z_3^2 + z_3 z_4^3$         | Chain + Chain | 273  | 4096  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{39})^2 \oplus (\mathbb{Z}_{13})^2$ |
| (21,84,91,13,65)     | $z_0^{13} + z_0 z_1^3 + z_2^3 + z_2 z_3^{14} + z_3 z_4^4$         | Chain + Chain | 273  | 3456  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^3$                               |
| (161,23,23,13,103)   | $z_0^2 + z_0 z_1^7 + z_1 z_2^{13} + z_2 z_3^{23} + z_3 z_4^3$     | Chain         | 322  | 8541  | $\mathbb{Z}^{38} \oplus \mathbb{Z}_2$                                   |
| (161,23,13,98,28)    | $z_0^2 + z_0 z_1^7 + z_1 z_2^{23} + z_4 z_3^3 + z_3 z_4^8$        | Chain + Cycle | 322  | 7416  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{46} \oplus \mathbb{Z}_2$            |
| (46,138,23,13,103)   | $z_0^7 + z_0 z_1^2 + z_1 z_2^8 + z_2 z_3^{23} + z_3 z_4^3$        | Chain         | 322  | 5256  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$            |
| (23,69,13,143,52)    | $z_0^{13} + z_0 z_1^4 + z_2^{23} + z_2 z_3^2 + z_3 z_4^3$         | Chain + Chain | 299  | 4560  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{23})^4$                            |
| (55,110,177,13,31)   | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{12}$     | Chain + Cycle | 385  | 5760  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{385} \oplus (\mathbb{Z}_{55})^2$    |
| (33,33,143,13,208)   | $z_0^{13} + z_1^{13} + z_2^3 + z_2 z_3^{22} + z_3 z_4^2$          | BP + Chain    | 429  | 9792  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^{12}$                            |
| (34,136,221,13,39)   | $z_0^{13} + z_0 z_1^3 + z_2^2 + z_2 z_3^{17} + z_3 z_4^{11}$      | Chain + Chain | 442  | 9207  | $\mathbb{Z}^{30} \oplus (\mathbb{Z}_2)^3$                               |
| (64,64,81,35,13)     | $z_0^4 + z_1^4 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{17}$            | BP + Cycle    | 256  | 2295  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{256} \oplus (\mathbb{Z}_{64})^2$       |
| (35,70,13,221,117)   | $z_0^{13} + z_0 z_1^6 + z_2^{35} + z_2 z_3^2 + z_3 z_4^2$         | Chain + Chain | 455  | 6864  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{35})^6$                            |
| (46,46,299,13,195)   | $z_0^{13} + z_1^{13} + z_2^2 + z_2 z_3^{23} + z_3 z_4^3$          | BP + Chain    | 598  | 13392 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^{12}$                            |
| (13,195,46,92,253)   | $z_0^{46} + z_0 z_1^3 + z_2^{13} + z_2 z_3^6 + z_3 z_4^2$         | Chain + Chain | 598  | 8370  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{26})^3 \oplus (\mathbb{Z}_2)^3$    |
| (51,255,137,106,13)  | $z_0^{11} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{35}$     | Chain + Cycle | 561  | 6720  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{561} \oplus \mathbb{Z}_{51}$        |
| (187,55,220,13,461)  | $z_0^5 + z_1^{17} + z_1 z_2^4 + z_2 z_3^{55} + z_3 z_4^2$         | BP + Chain    | 598  | 13392 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_5)^4$                               |
| (533,13,117,73,331)  | $z_0^2 + z_0 z_1^{41} + z_1 z_2^9 + z_2 z_3^{13} + z_3 z_4^3$     | Chain         | 1066 | 19845 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_2$                                   |



| Weights                | Polynomial   | Type               | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|------------------------|--|--------------------|------|-------|---|
| (282,94,517,13,223)    | $z_0^4 + z_0 z_1^9 + z_1 z_2^2 + z_2 z_3^{47} + z_3 z_4^5$         | Chain              | 1128 | 13575 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$         |
| (799,94,376,13,317)    | $z_0^2 + z_1^{17} + z_1 z_2^4 + z_2 z_3^{94} + z_3 z_4^5$          | BP + Chain         | 1598 | 25620 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^4$                             |
| (95,475,291,13,172)    | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{58} + z_3 z_4^6$      | Chain + Cycle      | 1045 | 12528 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{1045} \oplus \mathbb{Z}_{95}$     |
| (99,396,143,13,637)    | $z_0^{13} + z_0 z_1^3 + z_2^9 + z_2 z_3^{88} + z_3 z_4^2$          | Chain + Chain      | 1287 | 21600 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_9)^3$                             |
| (127,1073,543,404,13)  | $z_0^{17} + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^4 + z_3 z_4^{135}$     | BP + Cycle         | 2159 | 34560 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{17}$                              |
| (128,1024,721,291,13)  | $z_0^{17} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{145}$     | Chain + Cycle      | 2176 | 39150 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{2176} \oplus \mathbb{Z}_{128}$    |
| (1263,319,148,797,13)  | $z_4 z_0^2 + z_0 z_1^4 + z_1 z_2^{15} + z_2 z_3^3 + z_3 z_4^{134}$ | Cycle              | 2539 | 48240 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{2539}$                            |
| (153,612,341,259,13)   | $z_0^9 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{86}$         | Chain + Cycle      | 1377 | 13760 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{1377} \oplus \mathbb{Z}_{153}$       |
| (13,494,153,1165,659)  | $z_0^{191} + z_0 z_1^5 + z_1 z_2^{13} + z_2 z_3^2 + z_3 z_4^2$     | Chain              | 2483 | 36480 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2483} \oplus (\mathbb{Z}_{13})^4$ |
| (859,521,171,13,155)   | $z_0^2 + z_4 z_1^3 + z_1 z_2^7 + z_2 z_3^{119} + z_3 z_4^{11}$     | BP + Cycle         | 1718 | 27489 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_2$                                 |
| (1528,764,573,13,179)  | $z_0^2 + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{191} + z_3 z_4^{17}$     | Chain              | 3056 | 48909 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_8$                                 |
| (184,1104,299,13,793)  | $z_0^{13} + z_0 z_1^2 + z_2^8 + z_2 z_3^{161} + z_3 z_4^3$         | Chain + Chain      | 2392 | 36162 | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_8)^2$                             |
| (190,760,1235,13,273)  | $z_0^{13} + z_0 z_1^3 + z_2^2 + z_2 z_3^{95} + z_3 z_4^9$          | Chain + Chain      | 2470 | 41067 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^3$                             |
| (13,1495,231,396,869)  | $z_0^{231} + z_0 z_1^2 + z_2^{13} + z_2 z_3^7 + z_3 z_4^3$         | Chain + Chain      | 3003 | 45008 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{39} \oplus \mathbb{Z}_{13}$       |
| (328,246,13,433,293)   | $z_0^4 + z_0 z_1^4 + z_1 z_2^{82} + z_2 z_3^3 + z_3 z_4^3$         | Chain              | 1312 | 9171  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{328}$                                |
| (249,1494,1079,13,403) | $z_0^{13} + z_0 z_1^2 + z_2^3 + z_2 z_3^{166} + z_3 z_4^8$         | Chain + Chain      | 3237 | 48832 | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_3)^2$                             |
| (825,550,1387,13,251)  | $z_1 z_0^3 + z_0 z_1^4 + z_4 z_2^2 + z_2 z_3^{126} + z_3 z_4^{12}$ | Cycle + Cycle      | 3025 | 36288 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{3025} \oplus \mathbb{Z}_{275}$    |
| (256,1920,1361,547,13) | $z_0^{16} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{273}$     | Chain + Cycle      | 4096 | 69615 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{2048}$                            |
| (459,306,341,259,13)   | $z_0^3 + z_0 z_1^3 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{86}$         | Chain + Cycle      | 1377 | 9632  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{459}$                                |
| (1855,742,13,347,2609) | $z_0^3 + z_0 z_1^5 + z_1 z_2^{371} + z_2 z_3^{16} + z_3 z_4^2$     | Chain              | 5565 | 94592 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{1113}$                            |
| (3029,13,465,799,1753) | $z_0^2 + z_0 z_1^{233} + z_1 z_2^{13} + z_2 z_3^7 + z_3 z_4^3$     | Chain              | 6058 | 90405 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{26}$                              |
| (21,21,14,16,55)       | $z_0^6 + z_1^6 + z_2^9 + z_2 z_3^7 + z_3 z_4^2$                    | BP + Chain         | 126  | 1775  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{18} \oplus (\mathbb{Z}_3)^4$      |
| (17,51,17,21,14)       | $z_0^7 + z_0 z_1^2 + z_1 z_2^4 + z_4 z_3^5 + z_3 z_4^7$            | Chain + Cycle      | 119  | 1680  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_7)^3$                             |
| (14,56,63,17,33)       | $z_0^{13} + z_0 z_1^3 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^5$         | Chain              | 182  | 2235  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{26} \oplus (\mathbb{Z}_2)^2$      |
| (63,18,39,14,119)      | $z_0^4 + z_1^{14} + z_1 z_2^6 + z_3^{18} + z_3 z_4^2$              | BP + Chain + Chain | 252  | 4047  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{12}$                              |
| (14,28,105,19,73)      | $z_0^{17} + z_0 z_1^8 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$         | Chain              | 238  | 3960  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{34} \oplus (\mathbb{Z}_2)^7$      |
| (14,20,67,29,25)       | $z_0^{11} + z_0 z_1^7 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$         | Chain              | 154  | 1935  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{22}$                              |
| (20,65,14,133,49)      | $z_0^{14} + z_0 z_1^4 + z_2^{20} + z_2 z_3^2 + z_3 z_4^3$          | Chain + Chain      | 280  | 4257  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{20}$                              |
| (23,69,35,14,21)       | $z_0^7 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^9 + z_3 z_4^7$            | Chain + Cycle      | 161  | 2016  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{23})^2$                          |
| (14,161,24,39,99)      | $z_0^{24} + z_0 z_1^2 + z_2^{14} + z_2 z_3^8 + z_3 z_4^3$          | Chain + Chain      | 336  | 5925  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{28}$                              |
| (45,105,24,14,173)     | $z_0^8 + z_0 z_1^3 + z_2^{15} + z_2 z_3^{24} + z_3 z_4^2$          | Chain + Chain      | 360  | 6358  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{10} \oplus \mathbb{Z}_2$          |
| (175,25,25,14,112)     | $z_0^2 + z_1^{14} + z_2^{14} + z_3^{25} + z_3 z_4^3$               | BP + Chain         | 350  | 8619  | $\mathbb{Z}^{36} \oplus (\mathbb{Z}_2)^3$                             |
| (135,45,45,32,14)      | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^8 + z_3 z_4^{17}$                 | BP + Cycle         | 270  | 3400  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^2$                             |
| (42,14,231,33,143)     | $z_0^{11} + z_1^{33} + z_2^2 + z_2 z_3^7 + z_3 z_4^3$              | BP + Chain         | 462  | 9280  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_2)^{10}$                          |
| (65,195,35,14,147)     | $z_0^7 + z_0 z_1^2 + z_2^{13} + z_2 z_3^{30} + z_3 z_4^3$          | Chain + Chain      | 455  | 6336  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{13})^2$                          |

| Weights               | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|-----------------------|--|---------------|------|-------|---|
| (285,95,38,14,139)    | $z_0^2 + z_1^6 + z_2^{15} + z_2 z_3^{38} + z_3 z_4^4$              | BP + Chain    | 570  | 8620  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{10} \oplus \mathbb{Z}_2$          |
| (105,175,14,44,293)   | $z_0^6 + z_0 z_1^3 + z_2^{45} + z_2 z_3^{14} + z_3 z_4^2$          | Chain + Chain | 630  | 8762  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{30} \oplus \mathbb{Z}_2$          |
| (93,279,217,14,49)    | $z_0^7 + z_0 z_1^2 + z_2^3 + z_2 z_3^{31} + z_3 z_4^{13}$          | Chain + Chain | 651  | 8944  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^2$                             |
| (14,252,385,55,65)    | $z_0^{55} + z_0 z_1^3 + z_2^2 + z_2 z_3^7 + z_3 z_4^{11}$          | Chain + Chain | 770  | 15651 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{22} \oplus (\mathbb{Z}_2)^2$      |
| (243,81,337,14,55)    | $z_0^3 + z_1^9 + z_4 z_2^2 + z_2 z_3^{28} + z_3 z_4^{13}$          | BP + Cycle    | 729  | 11648 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{243} \oplus \mathbb{Z}_{81}$      |
| (105,63,14,58,181)    | $z_0^4 + z_0 z_1^5 + z_2^{30} + z_2 z_3^7 + z_3 z_4^2$             | Chain + Chain | 420  | 4063  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{12}$                              |
| (107,321,245,63,14)   | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^8 + z_3 z_4^{49}$         | Chain + Cycle | 749  | 9408  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{107})^2$                         |
| (14,434,63,117,255)   | $z_0^{63} + z_0 z_1^2 + z_2^{14} + z_2 z_3^7 + z_3 z_4^3$          | Chain + Chain | 882  | 13376 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{42} \oplus \mathbb{Z}_2$          |
| (679,14,336,73,257)   | $z_0^2 + z_1^{97} + z_1 z_2^4 + z_2 z_3^{14} + z_3 z_4^5$          | BP + Chain    | 1358 | 22020 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^4$                             |
| (176,14,697,79,443)   | $z_0^8 + z_0 z_1^{88} + z_1 z_2^2 + z_2 z_3^9 + z_3 z_4^3$         | Chain         | 1408 | 26055 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{16}$                              |
| (14,238,483,103,367)  | $z_0^{86} + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$         | Chain         | 1204 | 12555 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{172} \oplus (\mathbb{Z}_2)^4$     |
| (107,579,14,459,233)  | $z_0^{13} + z_4 z_1^2 + z_1 z_2^{58} + z_2 z_3^3 + z_3 z_4^4$      | BP + Cycle    | 1391 | 16704 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{13}$                              |
| (109,481,359,14,237)  | $z_0^{11} + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{60} + z_3 z_4^5$      | BP + Cycle    | 1199 | 12000 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                              |
| (1215,135,765,302,14) | $z_0^2 + z_0 z_1^9 + z_1 z_2^3 + z_4 z_3^8 + z_3 z_4^{152}$        | Chain + Cycle | 2430 | 44992 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$             |
| (497,14,1173,663,153) | $z_1 z_0^5 + z_0 z_1^{143} + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^{12}$ | Cycle + Cycle | 2499 | 34320 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{49} \oplus (\mathbb{Z}_7)^2$      |
| (275,825,175,14,637)  | $z_0^7 + z_0 z_1^2 + z_2^{11} + z_2 z_3^{125} + z_3 z_4^3$         | Chain + Chain | 1925 | 22080 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{11})^2$                          |
| (387,1161,903,14,245) | $z_0^7 + z_0 z_1^2 + z_2^3 + z_2 z_3^{129} + z_3 z_4^{11}$         | Chain + Chain | 2709 | 30976 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_3)^2$                             |
| (24,32,15,15,35)      | $z_0^5 + z_0 z_1^3 + z_2^8 + z_2 z_3^7 + z_3 z_4^3$                | Chain + Chain | 120  | 1309  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_8$                                 |
| (17,119,15,80,25)     | $z_0^{15} + z_0 z_1^2 + z_2^{17} + z_2 z_3^3 + z_3 z_4^7$          | Chain + Chain | 255  | 5152  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{17})^2$                          |
| (17,119,15,30,75)     | $z_0^{15} + z_0 z_1^2 + z_2^{17} + z_2 z_3^8 + z_3 z_4^3$          | Chain + Chain | 255  | 4608  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_{17})^2$                          |
| (15,75,60,17,149)     | $z_0^{21} + z_0 z_1^4 + z_1 z_2^4 + z_2 z_3^{15} + z_3 z_4^2$      | Chain         | 315  | 5312  | $\mathbb{Z}^{28} \oplus \mathbb{Z}_{21}$                              |
| (85,34,137,19,15)     | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{18}$     | Cycle + Cycle | 289  | 5184  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{289} \oplus \mathbb{Z}_{17}$      |
| (15,75,20,22,109)     | $z_0^{16} + z_0 z_1^3 + z_2^{12} + z_2 z_3^{10} + z_3 z_4^2$       | Chain + Chain | 240  | 4323  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{24} \oplus (\mathbb{Z}_3)^2$      |
| (22,121,24,15,83)     | $z_0^{12} + z_0 z_1^2 + z_2^{11} + z_2 z_3^{16} + z_3 z_4^3$       | Chain + Chain | 264  | 4706  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{33} \oplus \mathbb{Z}_3$          |
| (22,154,15,45,95)     | $z_0^{15} + z_0 z_1^2 + z_2^{22} + z_2 z_3^7 + z_3 z_4^3$          | Chain + Chain | 330  | 5264  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{66})^2 \oplus (\mathbb{Z}_3)^5$  |
| (15,30,27,23,71)      | $z_0^{11} + z_0 z_1^5 + z_1 z_2^5 + z_2 z_3^6 + z_3 z_4^2$         | Chain         | 165  | 1880  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{55} \oplus (\mathbb{Z}_5)^4$      |
| (85,85,15,48,23)      | $z_0^3 + z_1^3 + z_2^{17} + z_2 z_3^5 + z_3 z_4^9$                 | BP + Chain    | 255  | 2784  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{51} \oplus \mathbb{Z}_{17}$       |
| (15,55,23,161,92)     | $z_0^{23} + z_0 z_1^6 + z_2^{15} + z_2 z_3^2 + z_3 z_4^2$          | Chain + Chain | 345  | 5104  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_5)^2$                             |
| (25,15,155,34,97)     | $z_0^{13} + z_0 z_1^{20} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$      | Chain         | 325  | 5472  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{13}$                              |
| (15,25,130,52,169)    | $z_0^{26} + z_0 z_1^{15} + z_2^3 + z_2 z_3^5 + z_3 z_4^2$          | Chain + Chain | 390  | 6205  | $\mathbb{Z}^{24} \oplus \mathbb{Z}_2$                                 |
| (99,32,15,53,29)      | $z_4 z_0^2 + z_0 z_1^4 + z_1 z_2^{13} + z_2 z_3^4 + z_3 z_4^6$     | Cycle         | 227  | 2496  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{227}$                             |
| (110,110,33,15,63)    | $z_0^3 + z_1^3 + z_2^{10} + z_3^{22} + z_3 z_4^5$                  | BP + Chain    | 330  | 3204  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^2$                             |
| (167,91,43,34,15)     | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^9 + z_3 z_4^{21}$     | Cycle         | 349  | 4536  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{349}$                             |
| (15,60,185,37,259)    | $z_0^{37} + z_0 z_1^9 + z_2^3 + z_2 z_3^{10} + z_3 z_4^2$          | Chain + Chain | 555  | 9504  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^9$                             |
| (37,259,15,90,155)    | $z_0^{15} + z_0 z_1^2 + z_2^{37} + z_2 z_3^6 + z_3 z_4^3$          | Chain + Chain | 555  | 7680  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{111})^2 \oplus (\mathbb{Z}_3)^4$ |

| Weights                | Polynomial   | Type               | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|------------------------|--|--------------------|------|-------|---|
| (65,39,182,285,15)     | $z_0^9 + z_1^{15} + z_1 z_2^3 + z_4 z_3^2 + z_3 z_4^{20}$      | BP + Chain + Cycle | 585  | 9920  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                                 |
| (15,150,123,41,287)    | $z_0^{41} + z_0 z_1^4 + z_2^5 + z_2 z_3^{12} + z_3 z_4^2$      | Chain + Chain      | 615  | 7936  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_5)^4$                             |
| (15,63,66,44,143)      | $z_0^{22} + z_0 z_1^5 + z_2^5 + z_2 z_3^6 + z_3 z_4^2$         | Chain + Chain      | 330  | 3026  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^2$                             |
| (44,220,139,15,67)     | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{23} + z_3 z_4^7$  | Chain + Cycle      | 484  | 5796  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{484} \oplus \mathbb{Z}_{44}$      |
| (44,308,165,15,129)    | $z_0^{15} + z_0 z_1^2 + z_2^4 + z_2 z_3^{33} + z_3 z_4^5$      | Chain + Chain      | 660  | 8496  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{20})^2 \oplus \mathbb{Z}_5$      |
| (15,90,57,53,161)      | $z_0^{25} + z_0 z_1^4 + z_1 z_2^5 + z_2 z_3^6 + z_3 z_4^2$     | Chain              | 375  | 3424  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{125} \oplus (\mathbb{Z}_5)^3$        |
| (119,238,409,53,15)    | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{52}$     | Chain + Cycle      | 833  | 12480 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{833} \oplus (\mathbb{Z}_{119})^2$ |
| (161,161,69,78,15)     | $z_0^3 + z_1^3 + z_2^7 + z_4 z_3^6 + z_3 z_4^{27}$             | BP + Cycle         | 483  | 3888  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                             |
| (200,200,15,117,69)    | $z_0^3 + z_1^3 + z_2^{40} + z_2 z_3^5 + z_3 z_4^7$             | BP + Chain         | 600  | 4956  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{40})^2$                          |
| (704,88,15,199,403)    | $z_0^2 + z_0 z_1^8 + z_1 z_2^{88} + z_2 z_3^7 + z_3 z_4^3$     | Chain              | 1408 | 21105 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{176}$                             |
| (312,624,15,515,95)    | $z_0^5 + z_0 z_1^2 + z_2^{104} + z_2 z_3^3 + z_3 z_4^{11}$     | Chain + Chain      | 1560 | 19338 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{104})^2$                         |
| (15,180,485,97,679)    | $z_0^{97} + z_0 z_1^8 + z_2^3 + z_2 z_3^{10} + z_3 z_4^2$      | Chain + Chain      | 1455 | 21760 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_3)^8$                             |
| (15,102,311,181,427)   | $z_0^{69} + z_0 z_1^{10} + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^2$  | Chain              | 1035 | 9728  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{207} \oplus \mathbb{Z}_3$            |
| (459,102,15,227,575)   | $z_0^3 + z_0 z_1^9 + z_1 z_2^{85} + z_2 z_3^6 + z_3 z_4^2$     | Chain              | 1377 | 16040 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{51}$                              |
| (153,153,15,125,320)   | $z_0^5 + z_1^5 + z_2^{51} + z_2 z_3^6 + z_3 z_4^2$             | BP + Chain         | 765  | 5696  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{51})^4$                             |
| (515,515,15,153,348)   | $z_0^3 + z_1^3 + z_2^{103} + z_2 z_3^{10} + z_3 z_4^4$         | BP + Chain         | 1545 | 12768 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{103})^2$                         |
| (176,616,403,15,199)   | $z_0^8 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{67} + z_3 z_4^7$     | Chain + Cycle      | 1408 | 12663 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{704}$                                |
| (287,574,205,15,355)   | $z_0^5 + z_0 z_1^2 + z_2^7 + z_2 z_3^{82} + z_3 z_4^4$         | Chain + Chain      | 1435 | 10368 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                             |
| (15,276,373,511,221)   | $z_0^{93} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^2 + z_3 z_4^4$     | Chain              | 1395 | 9392  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{279}$                                |
| (332,664,415,15,235)   | $z_0^5 + z_0 z_1^2 + z_2^4 + z_2 z_3^{83} + z_3 z_4^7$         | Chain + Chain      | 1660 | 11970 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_4)^2$                             |
| (15,250,403,931,667)   | $z_0^{151} + z_0 z_1^9 + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$    | Chain              | 2265 | 19176 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{755} \oplus (\mathbb{Z}_5)^2$        |
| (15,1390,559,259,1963) | $z_0^{279} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{14} + z_3 z_4^2$ | Chain              | 4185 | 62216 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{1395}$                            |
| (15,858,1149,263,2021) | $z_0^{287} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^{12} + z_3 z_4^2$ | Chain              | 4305 | 54816 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{287}$                             |
| (176,16,105,19,37)     | $z_0^2 + z_1^{22} + z_4 z_2^3 + z_2 z_3^{13} + z_3 z_4^9$      | BP + Cycle         | 352  | 7371  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{32}$                              |
| (19,171,115,41,16)     | $z_0^{19} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^6 + z_3 z_4^{20}$  | Chain + Cycle      | 361  | 7200  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{361} \oplus \mathbb{Z}_{19}$      |
| (16,80,31,29,21)       | $z_0^{11} + z_0 z_1^2 + z_4 z_2^5 + z_2 z_3^5 + z_3 z_4^7$     | Chain + Cycle      | 176  | 2100  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{176} \oplus \mathbb{Z}_{16}$      |
| (21,119,42,16,181)     | $z_0^{18} + z_0 z_1^3 + z_2^9 + z_2 z_3^{21} + z_3 z_4^2$      | Chain + Chain      | 378  | 7289  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{54} \oplus (\mathbb{Z}_3)^7$      |
| (176,16,109,27,25)     | $z_0^2 + z_1^{22} + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{13}$      | BP + Cycle         | 352  | 7371  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{32}$                              |
| (55,55,44,16,51)       | $z_0^4 + z_1^4 + z_2^5 + z_2 z_3^{11} + z_3 z_4^4$             | BP + Chain         | 220  | 1521  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{20} \oplus (\mathbb{Z}_5)^2$         |
| (59,59,59,44,16)       | $z_0^4 + z_1^4 + z_2^4 + z_4 z_3^5 + z_3 z_4^{12}$             | BP + Cycle         | 236  | 1620  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_4)^2$                             |
| (63,189,89,16,85)      | $z_0^7 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^{22} + z_3 z_4^5$     | Chain + Cycle      | 441  | 3520  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{441} \oplus \mathbb{Z}_{63}$         |
| (63,273,98,16,433)     | $z_0^{14} + z_0 z_1^3 + z_2^9 + z_2 z_3^{49} + z_3 z_4^2$      | Chain + Chain      | 882  | 13021 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_6$                                 |
| (95,475,343,117,16)    | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^6 + z_3 z_4^{58}$  | Chain + Cycle      | 1045 | 12528 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{1045} \oplus \mathbb{Z}_{95}$     |
| (187,17,17,110,44)     | $z_0^2 + z_1^{22} + z_2^{22} + z_4 z_3^3 + z_3 z_4^6$          | BP + Cycle         | 374  | 7938  | $\mathbb{Z}^{40} \oplus (\mathbb{Z}_2)^2$                             |
| (30,20,65,17,19)       | $z_0^5 + z_0 z_1^6 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^7$        | Chain              | 150  | 1834  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{10} \oplus \mathbb{Z}_2$          |

| Weights              | Polynomial  | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|----------------------|---|---------------|------|-------|--|
| (119,17,34,19,169)   | $z_0^3 + z_0 z_1^{14} + z_1 z_2^{10} + z_2 z_3^{17} + z_3 z_4^2$  | Chain         | 357  | 7520  | $\mathbb{Z}^{38} \oplus \mathbb{Z}_3$                                |
| (85,17,102,19,203)   | $z_0^5 + z_0 z_1^{20} + z_1 z_2^4 + z_2 z_3^{17} + z_3 z_4^2$     | Chain         | 425  | 7104  | $\mathbb{Z}^{28} \oplus \mathbb{Z}_5$                                |
| (103,67,17,20,31)    | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^{10} + z_2 z_3^{11} + z_3 z_4^7$ | Cycle         | 237  | 3080  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{237}$                            |
| (20,120,65,39,17)    | $z_0^{13} + z_0 z_1^2 + z_2^4 + z_2 z_3^5 + z_3 z_4^{13}$         | Chain + Chain | 260  | 3402  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{52} \oplus \mathbb{Z}_4$         |
| (55,55,20,17,129)    | $z_0^5 + z_0 z_1^4 + z_1 z_2^{11} + z_2 z_3^{15} + z_3 z_4^2$     | Chain         | 275  | 3504  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{55} \oplus (\mathbb{Z}_{11})^3$  |
| (90,60,21,83,17)     | $z_0^3 + z_0 z_1^3 + z_1 z_2^{10} + z_2 z_3^3 + z_3 z_4^{11}$     | Chain         | 270  | 2783  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{30}$                             |
| (55,110,181,17,23)   | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{12} + z_3 z_4^{16}$     | Chain + Cycle | 385  | 5760  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{385} \oplus (\mathbb{Z}_{55})^2$ |
| (135,45,25,49,17)    | $z_0^2 + z_0 z_1^3 + z_1 z_2^9 + z_2 z_3^5 + z_3 z_4^{13}$        | Chain         | 270  | 3289  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{18}$                             |
| (27,144,51,17,221)   | $z_0^{17} + z_0 z_1^3 + z_2^9 + z_2 z_3^{24} + z_3 z_4^2$         | Chain + Chain | 459  | 7840  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                                |
| (17,255,51,27,161)   | $z_0^{30} + z_1^2 + z_1 z_2^5 + z_2 z_3^{17} + z_3 z_4^3$         | BP + Chain    | 510  | 10121 | $\mathbb{Z}^{28} \oplus \mathbb{Z}_2$                                |
| (27,90,159,17,275)   | $z_0^{21} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{24} + z_3 z_4^2$     | Chain         | 567  | 9344  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{63} \oplus \mathbb{Z}_3$         |
| (255,17,29,150,60)   | $z_0^2 + z_0 z_1^{15} + z_1 z_2^{17} + z_4 z_3^3 + z_3 z_4^6$     | Chain + Cycle | 510  | 8658  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{34} \oplus \mathbb{Z}_2$         |
| (153,17,221,39,30)   | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^{11} + z_3 z_4^{14}$  | Chain + Cycle | 459  | 8624  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_3$                                |
| (35,175,113,17,46)   | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{16} + z_3 z_4^8$     | Chain + Cycle | 385  | 4608  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{385} \oplus \mathbb{Z}_{35}$     |
| (36,54,99,17,47)     | $z_0^7 + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^9 + z_3 z_4^5$           | Chain         | 252  | 2050  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$            |
| (36,288,153,17,119)  | $z_0^{17} + z_0 z_1^2 + z_2^4 + z_2 z_3^{27} + z_3 z_4^5$         | Chain + Chain | 612  | 7830  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_4)^2$                            |
| (37,171,118,17,65)   | $z_0^{11} + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^6$     | BP + Cycle    | 407  | 4080  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |
| (17,170,41,413,227)  | $z_0^{51} + z_0 z_1^5 + z_1 z_2^{17} + z_2 z_3^2 + z_3 z_4^2$     | Chain         | 867  | 12800 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{867} \oplus (\mathbb{Z}_{17})^4$ |
| (168,42,315,17,131)  | $z_0^4 + z_0 z_1^{12} + z_1 z_2^2 + z_2 z_3^{21} + z_3 z_4^5$     | Chain         | 672  | 8115  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$        |
| (17,119,85,110,44)   | $z_0^{22} + z_0 z_1^3 + z_1 z_2^3 + z_4 z_3^3 + z_3 z_4^6$        | Chain + Cycle | 374  | 2754  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{22})^2$                         |
| (285,45,90,17,419)   | $z_0^3 + z_1^{19} + z_1 z_2^9 + z_2 z_3^{45} + z_3 z_4^2$         | BP + Chain    | 855  | 15696 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^9$                            |
| (47,188,17,485,251)  | $z_0^{21} + z_0 z_1^5 + z_1 z_2^{47} + z_2 z_3^2 + z_3 z_4^2$     | Chain         | 987  | 14720 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{987} \oplus (\mathbb{Z}_{47})^4$ |
| (51,17,323,195,78)   | $z_0^{13} + z_0 z_1^{36} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^6$     | Chain + Cycle | 663  | 8640  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{13})^2$                         |
| (299,17,230,53,109)  | $z_4 z_0^2 + z_0 z_1^{24} + z_1 z_2^3 + z_2 z_3^9 + z_3 z_4^6$    | Cycle         | 707  | 7776  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{707}$                            |
| (124,62,465,17,325)  | $z_0^8 + z_0 z_1^{14} + z_1 z_2^2 + z_2 z_3^{31} + z_3 z_4^3$     | Chain         | 992  | 14007 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{16} \oplus (\mathbb{Z}_2)^6$     |
| (589,62,124,17,387)  | $z_0^2 + z_1^{19} + z_1 z_2^9 + z_2 z_3^{62} + z_3 z_4^3$         | BP + Chain    | 1178 | 21357 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_2)^9$                            |
| (63,189,106,67,17)   | $z_0^7 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^5 + z_3 z_4^{22}$        | Chain + Cycle | 441  | 3520  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{441} \oplus \mathbb{Z}_{63}$        |
| (297,66,75,17,437)   | $z_0^3 + z_0 z_1^9 + z_1 z_2^{11} + z_2 z_3^{48} + z_3 z_4^2$     | Chain         | 891  | 14528 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{33}$                             |
| (297,198,511,17,67)  | $z_1 z_0^3 + z_0 z_1^4 + z_4 z_2^2 + z_2 z_3^{34} + z_3 z_4^{16}$ | Cycle + Cycle | 1089 | 13056 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{1089} \oplus \mathbb{Z}_{99}$    |
| (375,75,105,17,554)  | $z_0^3 + z_0 z_1^{10} + z_1 z_2^{10} + z_2 z_3^{60} + z_3 z_4^2$  | Chain         | 1125 | 18272 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{15} \oplus \mathbb{Z}_5$         |
| (75,300,255,17,629)  | $z_0^{17} + z_0 z_1^4 + z_2^5 + z_2 z_3^{60} + z_3 z_4^2$         | Chain + Chain | 1275 | 15808 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_5)^4$                            |
| (155,155,93,17,201)  | $z_0^4 + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{31} + z_3 z_4^3$        | Chain         | 620  | 3771  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{20} \oplus (\mathbb{Z}_5)^2$        |
| (107,687,176,405,17) | $z_0^{13} + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^{58}$     | BP + Cycle    | 1391 | 16704 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{13}$                             |
| (109,519,17,394,161) | $z_0^{11} + z_4 z_1^2 + z_1 z_2^{40} + z_2 z_3^3 + z_3 z_4^5$     | BP + Cycle    | 1199 | 12000 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |
| (109,591,304,179,17) | $z_0^{11} + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^{60}$     | BP + Cycle    | 1199 | 12000 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |

| Weights                 | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|------|-------|--|
| (17,697,124,992,279)    | $z_0^{124} + z_0 z_1^3 + z_2^{17} + z_2 z_3^2 + z_3 z_4^4$       | Chain + Chain | 2108 | 29382 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{68})^2 \oplus \mathbb{Z}_{17}$  |
| (126,504,1071,17,425)   | $z_0^{17} + z_0 z_1^4 + z_2^2 + z_2 z_3^{63} + z_3 z_4^5$        | Chain + Chain | 2142 | 26260 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^4$                            |
| (17,425,126,1008,567)   | $z_0^{126} + z_0 z_1^5 + z_2^{17} + z_2 z_3^2 + z_3 z_4^2$       | Chain + Chain | 2142 | 25250 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{34})^2 \oplus (\mathbb{Z}_{17})^3$ |
| (17,1139,135,360,645)   | $z_0^{135} + z_0 z_1^2 + z_2^{17} + z_2 z_3^6 + z_3 z_4^3$       | Chain + Chain | 2295 | 29920 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{51})^2$                         |
| (530,212,689,17,143)    | $z_0^3 + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^{53} + z_3 z_4^{11}$    | Chain         | 1590 | 15917 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_6$                                |
| (255,17,629,225,150)    | $z_0^5 + z_0 z_1^{60} + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^7$       | Chain + Cycle | 1275 | 10640 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_5)^3$                            |
| (175,525,358,17,151)    | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{51} + z_3 z_4^8$       | Chain + Cycle | 1225 | 9792  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1225} \oplus \mathbb{Z}_{175}$      |
| (17,901,153,535,214)    | $z_0^{107} + z_0 z_1^2 + z_1 z_2^6 + z_4 z_3^3 + z_3 z_4^6$      | Chain + Cycle | 1819 | 21168 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{107})^2$                        |
| (172,1376,17,969,391)   | $z_0^{17} + z_0 z_1^2 + z_2^{172} + z_2 z_3^3 + z_3 z_4^5$       | Chain + Chain | 2924 | 40230 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{172})^2$                        |
| (206,1648,17,697,935)   | $z_0^{17} + z_0 z_1^2 + z_2^{206} + z_2 z_3^5 + z_3 z_4^3$       | Chain + Chain | 3502 | 40770 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{206})^2$                        |
| (231,1232,17,1955,493)  | $z_0^{17} + z_0 z_1^3 + z_2^{231} + z_2 z_3^2 + z_3 z_4^4$       | Chain + Chain | 3927 | 56560 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{77}$                             |
| (235,752,17,1989,1003)  | $z_0^{17} + z_0 z_1^5 + z_2^{235} + z_2 z_3^2 + z_3 z_4^2$       | Chain + Chain | 3995 | 48576 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{47}$                             |
| (527,17,697,620,248)    | $z_0^4 + z_0 z_1^{93} + z_1 z_2^3 + z_4 z_3^3 + z_3 z_4^6$       | Chain + Cycle | 2108 | 13446 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_4)^2$                            |
| (1071,17,425,378,252)   | $z_0^2 + z_0 z_1^{63} + z_1 z_2^5 + z_4 z_3^5 + z_3 z_4^7$       | Chain + Cycle | 2142 | 17675 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^3$                            |
| (799,17,595,705,282)    | $z_0^3 + z_0 z_1^{94} + z_1 z_2^4 + z_4 z_3^3 + z_3 z_4^6$       | Chain + Cycle | 2397 | 15264 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                            |
| (2584,1292,17,303,973)  | $z_0^2 + z_0 z_1^2 + z_1 z_2^{228} + z_2 z_3^{17} + z_3 z_4^5$   | Chain         | 5168 | 62925 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{152}$                            |
| (333,1776,17,1411,2125) | $z_0^{17} + z_0 z_1^3 + z_2^{333} + z_2 z_3^4 + z_3 z_4^2$       | Chain + Chain | 5661 | 58240 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{111}$                            |
| (344,2580,17,1829,735)  | $z_0^{16} + z_0 z_1^2 + z_1 z_2^{172} + z_2 z_3^3 + z_3 z_4^5$   | Chain         | 5504 | 71535 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{2752}$                           |
| (17,493,1241,875,350)   | $z_0^{175} + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^6$      | Chain + Cycle | 2975 | 22032 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{175})^2$                        |
| (3128,782,17,367,1963)  | $z_0^2 + z_0 z_1^4 + z_1 z_2^{322} + z_2 z_3^{17} + z_3 z_4^3$   | Chain         | 6256 | 90153 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{92}$                             |
| (1564,2346,17,367,1963) | $z_0^4 + z_0 z_1^2 + z_1 z_2^{230} + z_2 z_3^{17} + z_3 z_4^3$   | Chain         | 6256 | 64395 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{184}$                            |
| (412,3090,17,1315,1759) | $z_0^{16} + z_0 z_1^2 + z_1 z_2^{206} + z_2 z_3^5 + z_3 z_4^3$   | Chain         | 6592 | 72495 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{3296}$                           |
| (2475,990,3481,17,463)  | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{232} + z_3 z_4^{16}$   | Chain + Cycle | 7425 | 96512 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{1485}$                           |
| (1485,1980,3481,17,463) | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{232} + z_3 z_4^{16}$   | Chain + Cycle | 7425 | 81664 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2475}$                           |
| (209,19,133,40,18)      | $z_0^2 + z_0 z_1^{11} + z_1 z_2^3 + z_4 z_3^{10} + z_3 z_4^{21}$ | Chain + Cycle | 418  | 9450  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^2$                            |
| (45,18,129,23,191)      | $z_0^9 + z_0 z_1^{20} + z_1 z_2^3 + z_2 z_3^{12} + z_3 z_4^2$    | Chain         | 405  | 6848  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{27} \oplus (\mathbb{Z}_3)^3$     |
| (18,102,111,71,23)      | $z_0^{18} + z_0 z_1^3 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^{11}$    | Chain         | 324  | 3311  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{36}$                             |
| (99,165,18,32,281)      | $z_0^6 + z_0 z_1^3 + z_2^{33} + z_2 z_3^{18} + z_3 z_4^2$        | Chain + Chain | 594  | 8138  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{198} \oplus \mathbb{Z}_6$        |
| (175,75,18,169,89)      | $z_0^3 + z_1^7 + z_1 z_2^{25} + z_2 z_3^3 + z_3 z_4^4$           | BP + Chain    | 525  | 3488  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                                   |
| (303,101,101,84,18)     | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^7 + z_3 z_4^{29}$               | BP + Cycle    | 606  | 5075  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^3$                            |
| (396,18,783,89,299)     | $z_0^4 + z_0 z_1^{66} + z_1 z_2^2 + z_2 z_3^9 + z_3 z_4^5$       | Chain         | 1584 | 19275 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$        |
| (354,18,699,239,107)    | $z_0^4 + z_0 z_1^{59} + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^{11}$    | Chain         | 1416 | 14399 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_8$                                |
| (825,275,125,408,18)    | $z_0^2 + z_0 z_1^3 + z_1 z_2^{11} + z_4 z_3^4 + z_3 z_4^{69}$    | Chain + Cycle | 1650 | 16836 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{22} \oplus \mathbb{Z}_2$         |
| (18,558,1125,125,425)   | $z_0^{125} + z_0 z_1^4 + z_2^2 + z_2 z_3^9 + z_3 z_4^5$          | Chain + Chain | 2250 | 27448 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{10} \oplus (\mathbb{Z}_2)^3$     |
| (125,425,18,1116,567)   | $z_0^{18} + z_0 z_1^5 + z_2^{125} + z_2 z_3^2 + z_3 z_4^2$       | Chain + Chain | 2250 | 27302 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{50} \oplus \mathbb{Z}_2$         |

| Weights                | Polynomial  | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|------------------------|---|---------------|------|-------|--|
| (18,1530,129,983,419)  | $z_0^{171} + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^3 + z_3 z_4^5$    | Chain         | 3078 | 53180 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{1026} \oplus \mathbb{Z}_6$       |
| (141,18,605,307,763)   | $z_0^{13} + z_0 z_1^{94} + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^2$     | Chain         | 1833 | 17120 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{39} \oplus \mathbb{Z}_3$            |
| (537,18,1247,157,1801) | $z_0^7 + z_0 z_1^{179} + z_1 z_2^3 + z_2 z_3^{16} + z_3 z_4^2$    | Chain         | 3759 | 62656 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{21}$                             |
| (729,1458,18,161,551)  | $z_0^4 + z_1^2 + z_1 z_2^{81} + z_2 z_3^{18} + z_3 z_4^5$         | BP + Chain    | 2916 | 35475 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{324}$                            |
| (1827,18,1212,407,191) | $z_0^2 + z_1^{203} + z_1 z_2^3 + z_2 z_3^6 + z_3 z_4^{17}$        | BP + Chain    | 3654 | 58871 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_2$                                |
| (19,95,19,44,33)       | $z_0^{11} + z_0 z_1^2 + z_1 z_2^6 + z_4 z_3^4 + z_3 z_4^5$        | Chain + Cycle | 209  | 2400  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{11})^2$                         |
| (21,189,133,38,19)     | $z_0^{19} + z_0 z_1^2 + z_2^3 + z_2 z_3^7 + z_3 z_4^{19}$         | Chain + Chain | 399  | 7600  | $\mathbb{Z}^{36} \oplus (\mathbb{Z}_3)^2$                            |
| (21,189,19,95,76)      | $z_0^{19} + z_0 z_1^2 + z_2^{21} + z_2 z_3^4 + z_3 z_4^4$         | Chain + Chain | 399  | 5440  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{21})^2$                         |
| (22,36,209,19,133)     | $z_0^{19} + z_0 z_1^{11} + z_2^2 + z_2 z_3^{11} + z_3 z_4^3$      | Chain + Chain | 418  | 8595  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_2$                                |
| (242,22,155,47,19)     | $z_0^2 + z_1^{22} + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{23}$         | BP + Cycle    | 484  | 10143 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{44}$                             |
| (147,42,19,211,23)     | $z_0^3 + z_0 z_1^7 + z_1 z_2^{21} + z_2 z_3^2 + z_3 z_4^{10}$     | Chain         | 441  | 8360  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{63}$                             |
| (63,126,211,23,19)     | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{10} + z_3 z_4^{22}$     | Chain + Cycle | 441  | 6600  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{441} \oplus (\mathbb{Z}_{63})^2$ |
| (32,160,105,19,37)     | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{13} + z_3 z_4^9$     | Chain + Cycle | 352  | 4212  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{352} \oplus \mathbb{Z}_{32}$     |
| (19,152,33,373,203)    | $z_0^{41} + z_0 z_1^5 + z_1 z_2^{19} + z_2 z_3^2 + z_3 z_4^2$     | Chain         | 779  | 11520 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{779} \oplus (\mathbb{Z}_{19})^4$ |
| (350,70,35,19,227)     | $z_0^2 + z_0 z_1^5 + z_1 z_2^{18} + z_2 z_3^{35} + z_3 z_4^3$     | Chain         | 700  | 12771 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_4$                                |
| (140,280,35,19,227)    | $z_0^5 + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^{35} + z_3 z_4^3$     | Chain         | 700  | 8514  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{20} \oplus \mathbb{Z}_4$         |
| (191,19,50,123,37)     | $z_4 z_0^2 + z_0 z_1^{12} + z_1 z_2^8 + z_2 z_3^3 + z_3 z_4^8$    | Cycle         | 419  | 4608  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{419}$                            |
| (88,66,143,19,37)      | $z_0^4 + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^9$        | Chain         | 352  | 2835  | $\mathbb{Z}^8 \oplus \mathbb{Z}_8$                                   |
| (40,360,95,19,247)     | $z_0^{19} + z_0 z_1^2 + z_2^8 + z_2 z_3^{35} + z_3 z_4^3$         | Chain + Chain | 760  | 11340 | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_8)^2$                            |
| (44,220,155,47,19)     | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{23}$     | Chain + Cycle | 484  | 5796  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{484} \oplus \mathbb{Z}_{44}$     |
| (51,102,323,19,475)    | $z_0^{19} + z_0 z_1^9 + z_2^3 + z_2 z_3^{34} + z_3 z_4^2$         | Chain + Chain | 969  | 15912 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_3)^9$                            |
| (19,475,51,153,272)    | $z_0^{51} + z_0 z_1^2 + z_2^{19} + z_2 z_3^6 + z_3 z_4^3$         | Chain + Chain | 969  | 12792 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{57})^2 \oplus (\mathbb{Z}_3)^4$ |
| (392,56,233,19,85)     | $z_0^2 + z_1^{14} + z_4 z_2^3 + z_2 z_3^{29} + z_3 z_4^9$         | BP + Cycle    | 784  | 10179 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{112}$                            |
| (467,176,273,19,61)    | $z_4 z_0^2 + z_0 z_1^3 + z_1 z_2^3 + z_2 z_3^{38} + z_3 z_4^{16}$ | Cycle         | 995  | 10944 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{995}$                            |
| (70,140,665,19,437)    | $z_0^{19} + z_0 z_1^9 + z_2^2 + z_2 z_3^{35} + z_3 z_4^3$         | Chain + Chain | 1330 | 21573 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_2)^9$                            |
| (19,437,70,630,175)    | $z_0^{70} + z_0 z_1^3 + z_2^{19} + z_2 z_3^2 + z_3 z_4^4$         | Chain + Chain | 1330 | 18612 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{38})^2 \oplus \mathbb{Z}_{19}$  |
| (70,210,455,19,367)    | $z_0^{16} + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^{35} + z_3 z_4^3$     | Chain         | 1120 | 11295 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{32} \oplus (\mathbb{Z}_2)^4$     |
| (19,266,71,639,355)    | $z_0^{71} + z_0 z_1^5 + z_2^{19} + z_2 z_3^2 + z_3 z_4^2$         | Chain + Chain | 1349 | 15960 | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_{19})^5$                         |
| (112,336,233,19,85)    | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{29} + z_3 z_4^9$        | Chain + Cycle | 784  | 6264  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{784} \oplus \mathbb{Z}_{112}$       |
| (85,170,119,19,373)    | $z_0^9 + z_0 z_1^4 + z_1 z_2^5 + z_2 z_3^{34} + z_3 z_4^2$        | Chain         | 765  | 6272  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{45} \oplus (\mathbb{Z}_5)^3$        |
| (567,189,841,86,19)    | $z_0^3 + z_1^9 + z_4 z_2^2 + z_2 z_3^{10} + z_3 z_4^{85}$         | BP + Cycle    | 1701 | 27200 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{567} \oplus \mathbb{Z}_{189}$    |
| (87,522,19,817,209)    | $z_0^{19} + z_0 z_1^3 + z_2^{87} + z_2 z_3^2 + z_3 z_4^4$         | Chain + Chain | 1653 | 23712 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{87})^3$                         |
| (704,88,463,135,19)    | $z_0^2 + z_1^{16} + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{67}$         | BP + Cycle    | 1408 | 21105 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{176}$                            |
| (89,236,129,19,151)    | $z_0^7 + z_4 z_1^2 + z_1 z_2^3 + z_2 z_3^{26} + z_3 z_4^4$        | BP + Cycle    | 623  | 3744  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                                   |
| (97,873,19,608,247)    | $z_0^{19} + z_0 z_1^2 + z_2^{97} + z_2 z_3^3 + z_3 z_4^5$         | Chain + Chain | 1843 | 25200 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{97})^2$                         |

| Weights                 | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|-------|--------|--|
| (125,250,131,19,101)    | $z_0^5 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^{26} + z_3 z_4^6$         | Chain + Cycle | 625   | 3744   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{625} \oplus \mathbb{Z}_{125}$       |
| (159,106,19,547,283)    | $z_0^7 + z_0 z_1^9 + z_1 z_2^{53} + z_2 z_3^2 + z_3 z_4^2$         | Chain         | 1113  | 9960   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{371} \oplus (\mathbb{Z}_{53})^2$    |
| (116,1044,19,437,589)   | $z_0^{19} + z_0 z_1^2 + z_2^{116} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain | 2204  | 25500  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{116})^2$                        |
| (119,595,170,19,883)    | $z_0^{15} + z_1^3 + z_1 z_2^7 + z_2 z_3^{85} + z_3 z_4^2$          | BP + Chain    | 1785  | 25256  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{105} \oplus \mathbb{Z}_7$        |
| (125,750,19,589,893)    | $z_0^{19} + z_0 z_1^3 + z_2^{125} + z_2 z_3^4 + z_3 z_4^2$         | Chain + Chain | 2375  | 24336  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{125})^3$                        |
| (176,616,463,135,19)    | $z_0^8 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{67}$         | Chain + Cycle | 1408  | 12663  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{704}$                               |
| (1001,182,140,19,661)   | $z_0^2 + z_1^{11} + z_1 z_2^{13} + z_2 z_3^{98} + z_3 z_4^3$       | BP + Chain    | 2002  | 28161  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                                |
| (140,770,1225,19,1067)  | $z_0^{23} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{105} + z_3 z_4^3$     | Chain         | 3220  | 38754  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{46} \oplus \mathbb{Z}_2$         |
| (477,159,424,19,353)    | $z_0^3 + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{53} + z_3 z_4^4$         | Chain         | 1431  | 8624   | $\mathbb{Z}^6 \oplus \mathbb{Z}_9 \oplus \mathbb{Z}_3$               |
| (19,817,209,348,261)    | $z_0^{87} + z_0 z_1^2 + z_1 z_2^4 + z_4 z_3^4 + z_3 z_4^5$         | Chain + Cycle | 1653  | 12160  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{87})^2$                         |
| (1929,487,226,1217,19)  | $z_4 z_0^2 + z_0 z_1^4 + z_1 z_2^{15} + z_2 z_3^3 + z_3 z_4^{140}$ | Cycle         | 3877  | 50400  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{3877}$                           |
| (1683,306,527,19,2515)  | $z_0^3 + z_0 z_1^{11} + z_1 z_2^9 + z_2 z_3^{238} + z_3 z_4^2$     | Chain         | 5049  | 70952  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{27}$                             |
| (19,589,893,500,375)    | $z_0^{125} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^5$        | Chain + Cycle | 2375  | 12480  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{125})^2$                           |
| (19,3097,1330,420,4445) | $z_0^{490} + z_0 z_1^3 + z_2^7 + z_2 z_3^{19} + z_3 z_4^2$         | Chain + Chain | 9310  | 136359 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{14}$                             |
| (3617,2405,439,755,19)  | $z_0^2 + z_4 z_1^3 + z_1 z_2^{11} + z_2 z_3^9 + z_3 z_4^{341}$     | BP + Cycle    | 7234  | 101277 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                                |
| (459,561,1496,19,2515)  | $z_0^{11} + z_1^9 + z_1 z_2^3 + z_2 z_3^{187} + z_3 z_4^2$         | BP + Chain    | 5049  | 50680  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |
| (770,490,2835,19,2047)  | $z_0^8 + z_0 z_1^{11} + z_1 z_2^2 + z_2 z_3^{175} + z_3 z_4^3$     | Chain         | 6160  | 61695  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{16}$                             |
| (4085,19,1748,553,5851) | $z_0^3 + z_0 z_1^{430} + z_1 z_2^7 + z_2 z_3^{19} + z_3 z_4^2$     | Chain         | 12255 | 179312 | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                                |
| (2769,3823,19,1036,661) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{236} + z_2 z_3^8 + z_3 z_4^{11}$     | BP + Cycle    | 8307  | 83072  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                                |
| (4833,1074,2864,19,877) | $z_0^2 + z_1^9 + z_1 z_2^3 + z_2 z_3^{358} + z_3 z_4^{11}$         | BP + Chain    | 9666  | 96679  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_2$                                |
| (230,20,345,69,27)      | $z_0^3 + z_0 z_1^{23} + z_2^2 + z_2 z_3^5 + z_3 z_4^{23}$          | Chain + Chain | 690   | 14807  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_2$                                |
| (47,47,47,28,20)        | $z_0^4 + z_1^4 + z_2^4 + z_4 z_3^6 + z_3 z_4^8$                    | BP + Cycle    | 188   | 1296   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_4)^2$                            |
| (20,30,165,39,107)      | $z_0^{18} + z_1^{12} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$          | BP + Chain    | 360   | 4301   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{12} \oplus (\mathbb{Z}_2)^4$     |
| (39,117,30,20,185)      | $z_0^{10} + z_0 z_1^3 + z_2^{13} + z_2 z_3^{18} + z_3 z_4^2$       | Chain + Chain | 390   | 5166   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{26})^3 \oplus (\mathbb{Z}_2)^3$ |
| (37,407,111,20,277)     | $z_0^{23} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{37} + z_3 z_4^3$      | Chain         | 6851  | 13776  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_{23}$                             |
| (20,290,445,49,377)     | $z_0^{59} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{15} + z_3 z_4^3$      | Chain         | 1180  | 14454  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{118} \oplus \mathbb{Z}_2$        |
| (189,315,54,20,557)     | $z_0^6 + z_0 z_1^3 + z_2^{21} + z_2 z_3^{54} + z_3 z_4^2$          | Chain + Chain | 1134  | 15002  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{126} \oplus \mathbb{Z}_6$        |
| (59,229,151,20,73)      | $z_0^9 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^7$         | BP + Cycle    | 531   | 4256   | $\mathbb{Z}^8 \oplus \mathbb{Z}_9$                                   |
| (145,20,570,59,367)     | $z_0^8 + z_1^{58} + z_1 z_2^2 + z_2 z_3^{10} + z_3 z_4^3$          | BP + Chain    | 1160  | 16653  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_4$                                |
| (69,437,20,680,175)     | $z_0^{20} + z_0 z_1^3 + z_2^{69} + z_2 z_3^2 + z_3 z_4^4$          | Chain + Chain | 1380  | 19762  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{92} \oplus \mathbb{Z}_4$         |
| (89,211,103,20,201)     | $z_0^7 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{26} + z_3 z_4^3$         | BP + Cycle    | 623   | 3744   | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                                   |
| (99,297,90,20,485)      | $z_0^{10} + z_0 z_1^3 + z_2^{11} + z_2 z_3^{45} + z_3 z_4^2$       | Chain + Chain | 990   | 10605  | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_{22})^3 \oplus (\mathbb{Z}_2)^2$ |
| (20,245,990,99,627)     | $z_0^{99} + z_0 z_1^8 + z_2^2 + z_2 z_3^{10} + z_3 z_4^3$          | Chain + Chain | 1980  | 28454  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_3$                                |
| (99,627,20,490,745)     | $z_0^{20} + z_0 z_1^3 + z_2^{99} + z_2 z_3^4 + z_3 z_4^2$          | Chain + Chain | 1980  | 20254  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{66} \oplus \mathbb{Z}_2$         |
| (275,1100,20,109,697)   | $z_0^8 + z_1^2 + z_1 z_2^{55} + z_2 z_3^{20} + z_3 z_4^3$          | BP + Chain    | 2200  | 31563  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{440}$                            |

| Weights                | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$  |
|------------------------|--|---------------|------|-------|---|
| (550,825,20,109,697)   | $z_0^4 + z_0 z_1^2 + z_2^{110} + z_2 z_3^{20} + z_3 z_4^3$     | Chain + Chain | 2200 | 22545 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{220}$                           |
| (407,111,1369,20,943)  | $z_0^7 + z_0 z_1^{22} + z_1 z_2^2 + z_2 z_3^{74} + z_3 z_4^3$  | Chain         | 2849 | 45744 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_7$                               |
| (20,800,405,243,153)   | $z_0^{81} + z_0 z_1^2 + z_2^4 + z_2 z_3^5 + z_3 z_4^9$         | Chain + Chain | 1620 | 13366 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{36} \oplus \mathbb{Z}_4$           |
| (945,189,567,170,20)   | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{11} + z_3 z_4^{86}$  | Chain + Cycle | 1890 | 19866 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^6$                           |
| (20,1610,405,189,1017) | $z_0^{162} + z_0 z_1^2 + z_2^8 + z_2 z_3^{15} + z_3 z_4^3$     | Chain + Chain | 3240 | 40261 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{12}$                            |
| (20,1170,595,353,223)  | $z_0^{118} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^9$    | Chain         | 2360 | 19233 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{236}$                              |
| (20,2040,515,239,1287) | $z_0^{205} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{15} + z_3 z_4^3$ | Chain         | 4100 | 50634 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{820} \oplus \mathbb{Z}_4$       |
| (1340,20,665,403,253)  | $z_0^2 + z_0 z_1^{67} + z_1 z_2^4 + z_2 z_3^5 + z_3 z_4^9$     | Chain         | 2680 | 21843 | $\mathbb{Z}^8 \oplus \mathbb{Z}_8$                                  |
| (20,510,1285,359,907)  | $z_0^{154} + z_0 z_1^6 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$    | Chain         | 3080 | 19557 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{308} \oplus (\mathbb{Z}_2)^2$      |
| (23,23,39,33,21)       | $z_0^6 + z_1^6 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^5$            | BP + Cycle    | 138  | 1125  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{46} \oplus (\mathbb{Z}_{23})^4$    |
| (21,112,35,23,167)     | $z_0^{17} + z_0 z_1^3 + z_1 z_2^7 + z_2 z_3^{14} + z_3 z_4^2$  | Chain         | 357  | 5320  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{17}$                            |
| (26,52,273,21,175)     | $z_0^{21} + z_0 z_1^{10} + z_2^2 + z_2 z_3^{13} + z_3 z_4^3$   | Chain + Chain | 546  | 10070 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_2)^9$       |
| (26,78,195,21,149)     | $z_0^{18} + z_1^6 + z_1 z_2^2 + z_2 z_3^{13} + z_3 z_4^3$      | BP + Chain    | 468  | 5423  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{12} \oplus (\mathbb{Z}_2)^4$    |
| (26,299,78,21,201)     | $z_0^{24} + z_0 z_1^2 + z_2^8 + z_2 z_3^{26} + z_3 z_4^3$      | Chain + Chain | 624  | 10575 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{16} \oplus (\mathbb{Z}_2)^6$    |
| (21,175,26,104,221)    | $z_0^{26} + z_0 z_1^3 + z_2^{21} + z_2 z_3^5 + z_3 z_4^2$      | Chain + Chain | 546  | 6625  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^4$    |
| (35,21,32,71,87)       | $z_0^7 + z_0 z_1^{10} + z_1 z_2^7 + z_2 z_3^3 + z_3 z_4^2$     | Chain         | 245  | 1896  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{49} \oplus \mathbb{Z}_7$           |
| (21,35,33,99,44)       | $z_0^{11} + z_0 z_1^6 + z_2^7 + z_2 z_3^2 + z_3 z_4^3$         | Chain + Chain | 231  | 1904  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_7)^2$                              |
| (34,238,119,21,65)     | $z_0^{14} + z_1^2 + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^7$      | BP + Chain    | 476  | 5343  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_4$                               |
| (36,468,21,317,131)    | $z_0^{27} + z_0 z_1^2 + z_1 z_2^{24} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 972  | 16820 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{324} \oplus \mathbb{Z}_{12}$    |
| (37,193,107,50,21)     | $z_0^{11} + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^6 + z_3 z_4^{17}$  | BP + Cycle    | 407  | 4080  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                            |
| (266,76,399,21,37)     | $z_0^3 + z_0 z_1^7 + z_2^2 + z_2 z_3^{19} + z_3 z_4^{21}$      | Chain + Chain | 798  | 14459 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_6$                               |
| (104,52,39,21,97)      | $z_0^3 + z_1^6 + z_2^8 + z_2 z_3^{13} + z_3 z_4^3$             | BP + Chain    | 312  | 2150  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{12} \oplus \mathbb{Z}_4$           |
| (21,693,51,452,191)    | $z_0^{67} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 1407 | 24320 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{469} \oplus \mathbb{Z}_7$       |
| (52,442,117,21,305)    | $z_0^{18} + z_0 z_1^2 + z_2^8 + z_2 z_3^{39} + z_3 z_4^3$      | Chain + Chain | 936  | 11989 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{12}$                            |
| (21,357,52,520,143)    | $z_0^{52} + z_0 z_1^3 + z_2^{21} + z_2 z_3^2 + z_3 z_4^4$      | Chain + Chain | 1092 | 15330 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{84})^2 \oplus \mathbb{Z}_{21}$ |
| (59,177,59,98,21)      | $z_0^7 + z_0 z_1^2 + z_1 z_2^4 + z_4 z_3^4 + z_3 z_4^{15}$     | Chain + Cycle | 413  | 2880  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                           |
| (59,236,21,609,315)    | $z_0^{21} + z_0 z_1^5 + z_2^{59} + z_2 z_3^2 + z_3 z_4^2$      | Chain + Chain | 1239 | 14960 | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_{59})^5$                        |
| (68,204,119,21,65)     | $z_0^7 + z_0 z_1^2 + z_2^4 + z_2 z_3^{17} + z_3 z_4^7$         | Chain + Chain | 476  | 3288  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{28} \oplus \mathbb{Z}_4$           |
| (72,720,21,497,203)    | $z_0^{21} + z_0 z_1^2 + z_2^{72} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain | 1512 | 20570 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{72} \oplus \mathbb{Z}_{24}$     |
| (173,346,595,77,21)    | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{54}$     | Chain + Cycle | 1211 | 12960 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{173})^3$                       |
| (125,250,151,79,21)    | $z_0^5 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^6 + z_3 z_4^{26}$     | Chain + Cycle | 625  | 3744  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{625} \oplus \mathbb{Z}_{125}$      |
| (86,860,21,357,483)    | $z_0^{21} + z_0 z_1^2 + z_2^{86} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain | 1806 | 20790 | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{86})^2$                        |
| (104,728,195,21,513)   | $z_0^{15} + z_0 z_1^2 + z_2^8 + z_2 z_3^{65} + z_3 z_4^3$      | Chain + Chain | 1560 | 16752 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_8)^2$                           |
| (21,357,364,104,247)   | $z_0^{52} + z_0 z_1^3 + z_2^3 + z_2 z_3^7 + z_3 z_4^4$         | Chain + Chain | 1092 | 6825  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{12} \oplus (\mathbb{Z}_3)^2$       |
| (104,1404,351,21,929)  | $z_0^{27} + z_1^2 + z_1 z_2^4 + z_2 z_3^{117} + z_3 z_4^3$     | BP + Chain    | 2808 | 48854 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_9$                               |



| Weights                 | Polynomial   | Type          | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|------|-------|--|
| (109,589,122,359,21)    | $z_0^{11} + z_4 z_1^2 + z_1 z_2^5 + z_2 z_3^3 + z_3 z_4^{40}$  | BP + Cycle    | 1199 | 12000 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |
| (308,308,21,129,159)    | $z_0^3 + z_1^3 + z_2^{44} + z_2 z_3^7 + z_3 z_4^5$             | BP + Chain    | 924  | 5100  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{44})^2$                            |
| (728,364,21,205,139)    | $z_0^2 + z_0 z_1^2 + z_1 z_2^{52} + z_2 z_3^7 + z_3 z_4^9$     | Chain         | 1456 | 11853 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{104}$                               |
| (695,139,973,258,21)    | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{87}$  | Chain + Cycle | 2085 | 22272 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                            |
| (869,1738,158,21,691)   | $z_0^4 + z_1^2 + z_1 z_2^{11} + z_2 z_3^{158} + z_3 z_4^5$     | BP + Chain    | 3476 | 41775 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{44}$                             |
| (159,689,1113,21,245)   | $z_0^{14} + z_0 z_1^3 + z_2^2 + z_2 z_3^{53} + z_3 z_4^9$      | Chain + Chain | 2226 | 24621 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                                |
| (189,21,560,163,769)    | $z_0^9 + z_0 z_1^{72} + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$     | Chain         | 1701 | 14912 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{27} \oplus (\mathbb{Z}_3)^7$        |
| (1649,194,2463,621,21)  | $z_0^3 + z_0 z_1^{17} + z_4 z_2^2 + z_2 z_3^4 + z_3 z_4^{206}$ | Chain + Cycle | 4947 | 80752 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{97}$                             |
| (1673,21,714,205,2407)  | $z_0^3 + z_1^{239} + z_1 z_2^7 + z_2 z_3^{21} + z_3 z_4^2$     | BP + Chain    | 5019 | 73136 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_3)^7$                            |
| (21,245,742,212,1007)   | $z_0^{106} + z_0 z_1^9 + z_2^3 + z_2 z_3^7 + z_3 z_4^2$        | Chain + Chain | 2226 | 19527 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                                |
| (2736,684,21,1817,215)  | $z_0^2 + z_0 z_1^4 + z_1 z_2^{228} + z_2 z_3^3 + z_3 z_4^{17}$ | Chain         | 5472 | 89369 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{456}$                            |
| (632,632,237,21,375)    | $z_0^3 + z_1^3 + z_2^8 + z_2 z_3^{79} + z_3 z_4^5$             | BP + Chain    | 1896 | 10140 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_8)^2$                               |
| (695,695,417,258,21)    | $z_0^3 + z_1^3 + z_2^5 + z_4 z_3^8 + z_3 z_4^{87}$             | BP + Cycle    | 2085 | 11136 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                               |
| (299,598,917,21,259)    | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{56} + z_3 z_4^8$     | Chain + Cycle | 2093 | 13440 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{299})^3$                           |
| (21,339,1476,1097,1835) | $z_0^{227} + z_0 z_1^{14} + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^2$ | Chain         | 4767 | 35184 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{227}$                            |
| (21,2583,1729,494,361)  | $z_0^{247} + z_0 z_1^2 + z_2^3 + z_2 z_3^7 + z_3 z_4^{13}$     | Chain + Chain | 5187 | 62992 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{39} \oplus \mathbb{Z}_3$         |
| (21,2002,805,373,2827)  | $z_0^{287} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{14} + z_3 z_4^2$ | Chain         | 6027 | 64000 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{287}$                            |
| (21,735,1232,457,1987)  | $z_0^{211} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$    | Chain         | 4431 | 29328 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{633} \oplus (\mathbb{Z}_3)^5$       |
| (3801,21,2527,725,529)  | $z_0^2 + z_0 z_1^{181} + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^{13}$ | Chain         | 7602 | 91949 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                                |
| (22,319,30,105,185)     | $z_0^{30} + z_0 z_1^2 + z_2^{22} + z_2 z_3^6 + z_3 z_4^3$      | Chain + Chain | 660  | 8835  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{132} \oplus (\mathbb{Z}_3)^2$    |
| (35,175,121,33,22)      | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^8 + z_3 z_4^{16}$  | Chain + Cycle | 385  | 4608  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{35})^2$                         |
| (198,22,385,37,151)     | $z_0^4 + z_0 z_1^{27} + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^5$  | Chain         | 792  | 9615  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$        |
| (41,205,41,143,22)      | $z_0^{11} + z_0 z_1^2 + z_1 z_2^6 + z_4 z_3^3 + z_3 z_4^{14}$  | Chain + Cycle | 451  | 5040  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{11})^2$                         |
| (51,357,22,550,143)     | $z_0^{22} + z_0 z_1^3 + z_2^{51} + z_2 z_3^2 + z_3 z_4^4$      | Chain + Chain | 1122 | 16020 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{102})^2 \oplus \mathbb{Z}_{51}$ |
| (57,285,209,22,55)      | $z_0^{11} + z_0 z_1^2 + z_2^3 + z_2 z_3^{19} + z_3 z_4^{11}$   | Chain + Chain | 627  | 6864  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_3)^2$                            |
| (289,195,22,73,101)     | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^{22} + z_2 z_3^9 + z_3 z_4^6$ | Cycle         | 679  | 4752  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{679}$                               |
| (22,198,803,73,511)     | $z_0^{73} + z_0 z_1^8 + z_2^2 + z_2 z_3^{11} + z_3 z_4^3$      | Chain + Chain | 1606 | 23040 | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^8$                            |
| (73,511,22,396,605)     | $z_0^{22} + z_0 z_1^3 + z_2^{73} + z_2 z_3^4 + z_3 z_4^2$      | Chain + Chain | 1606 | 16380 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{146})^3 \oplus \mathbb{Z}_2$       |
| (575,115,345,94,22)     | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{12} + z_3 z_4^{48}$  | Chain + Cycle | 1150 | 12096 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^2$                            |
| (175,525,401,103,22)    | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^8 + z_3 z_4^{51}$     | Chain + Cycle | 1225 | 9792  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1225} \oplus \mathbb{Z}_{175}$      |
| (429,429,22,115,293)    | $z_0^2 + z_0 z_1^2 + z_1 z_2^{22} + z_2 z_3^9 + z_3 z_4^6$     | Chain         | 1287 | 7952  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{117} \oplus \mathbb{Z}_{39}$        |
| (451,123,1517,1045,22)  | $z_0^7 + z_0 z_1^{22} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{96}$  | Chain + Cycle | 3157 | 46080 | $\mathbb{Z}^{22} \oplus \mathbb{Z}_7$                                |
| (22,1188,1793,271,1501) | $z_0^{217} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 4774 | 39276 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{434} \oplus (\mathbb{Z}_2)^3$       |
| (207,23,23,126,36)      | $z_0^2 + z_1^{18} + z_2^{18} + z_4 z_3^3 + z_3 z_4^8$          | BP + Cycle    | 414  | 6936  | $\mathbb{Z}^{32} \oplus (\mathbb{Z}_2)^2$                            |
| (25,275,23,92,161)      | $z_0^{23} + z_0 z_1^2 + z_2^{25} + z_2 z_3^6 + z_3 z_4^3$      | Chain + Chain | 575  | 7776  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{25})^2$                         |

| Weights                 | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|-------|--------|--|
| (25,275,115,23,138)     | $z_0^{23} + z_0 z_1^2 + z_2^5 + z_2 z_3^{20} + z_3 z_4^4$          | Chain + Chain | 575   | 7296   | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_5)^2$                          |
| (163,31,106,27,23)      | $z_4 z_0^2 + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^9 + z_3 z_4^{14}$     | Cycle         | 349   | 4536   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{349}$                          |
| (23,299,27,99,174)      | $z_0^{27} + z_0 z_1^2 + z_2^{23} + z_2 z_3^6 + z_3 z_4^3$          | Chain + Chain | 621   | 8344   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{69})^2$                       |
| (23,575,378,159,39)     | $z_0^{51} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{26}$      | Chain + Cycle | 1173  | 20280  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{391} \oplus \mathbb{Z}_{23}$   |
| (105,105,42,23,251)     | $z_0^5 + z_0 z_1^4 + z_1 z_2^{10} + z_2 z_3^{21} + z_3 z_4^2$      | Chain         | 525   | 4384   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{25} \oplus (\mathbb{Z}_5)^3$   |
| (23,322,43,473,129)     | $z_0^{43} + z_0 z_1^3 + z_2^{23} + z_2 z_3^2 + z_3 z_4^4$          | Chain + Chain | 989   | 13920  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{23})^3$                       |
| (85,255,181,23,52)      | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{18} + z_3 z_4^{11}$      | Chain + Cycle | 595   | 4752   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{595} \oplus \mathbb{Z}_{85}$      |
| (63,63,210,23,335)      | $z_0^{11} + z_0 z_1^{10} + z_1 z_2^3 + z_2 z_3^{21} + z_3 z_4^2$   | Chain         | 693   | 7160   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{33} \oplus (\mathbb{Z}_3)^9$   |
| (68,714,23,491,201)     | $z_0^{22} + z_0 z_1^2 + z_1 z_2^{34} + z_2 z_3^3 + z_3 z_4^5$      | Chain         | 1496  | 19425  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{748}$                          |
| (71,781,23,322,437)     | $z_0^{23} + z_0 z_1^2 + z_2^{71} + z_2 z_3^5 + z_3 z_4^3$          | Chain + Chain | 1633  | 18720  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{71})^2$                       |
| (761,23,660,79,481)     | $z_4 z_0^2 + z_0 z_1^{54} + z_1 z_2^3 + z_2 z_3^{17} + z_3 z_4^4$  | Cycle         | 2003  | 22032  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2003}$                         |
| (1044,522,87,23,413)    | $z_0^2 + z_0 z_1^2 + z_1 z_2^{18} + z_2 z_3^{87} + z_3 z_4^5$      | Chain         | 2088  | 25125  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{12}$                           |
| (675,270,967,23,91)     | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{46} + z_3 z_4^{22}$      | Chain + Cycle | 2025  | 26312  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{405}$                          |
| (405,540,967,23,91)     | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{46} + z_3 z_4^{22}$      | Chain + Cycle | 2025  | 22264  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{675}$                          |
| (363,23,100,241,97)     | $z_4 z_0^2 + z_0 z_1^{20} + z_1 z_2^8 + z_2 z_3^3 + z_3 z_4^6$     | Cycle         | 823   | 5760   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{823}$                             |
| (825,550,1501,127,23)   | $z_1 z_0^3 + z_0 z_1^4 + z_4 z_2^2 + z_2 z_3^{12} + z_3 z_4^{126}$ | Cycle + Cycle | 3025  | 36288  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{3025} \oplus \mathbb{Z}_{275}$ |
| (1197,23,836,339,137)   | $z_4 z_0^2 + z_0 z_1^{58} + z_1 z_2^3 + z_2 z_3^5 + z_3 z_4^{16}$  | Cycle         | 2531  | 27840  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2531}$                         |
| (161,23,552,245,147)    | $z_0^7 + z_0 z_1^{42} + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^6$         | Chain + Cycle | 1127  | 7200   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                          |
| (23,1311,172,946,1505)  | $z_0^{172} + z_0 z_1^3 + z_2^{23} + z_2 z_3^4 + z_3 z_4^2$         | Chain + Chain | 3956  | 39330  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{46})^2 \oplus \mathbb{Z}_{23}$   |
| (23,2231,1127,845,260)  | $z_0^{195} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^{14}$     | Chain + Cycle | 4485  | 40880  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{195} \oplus \mathbb{Z}_{65}$   |
| (301,3311,989,23,2300)  | $z_0^{23} + z_0 z_1^2 + z_2^7 + z_2 z_3^{258} + z_3 z_4^3$         | Chain + Chain | 6923  | 86832  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_7)^2$                          |
| (1700,340,1031,23,307)  | $z_0^2 + z_1^{10} + z_4 z_2^3 + z_2 z_3^{103} + z_3 z_4^{11}$      | BP + Cycle    | 3400  | 30591  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{680}$                             |
| (680,1360,1031,23,307)  | $z_0^5 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{103} + z_3 z_4^{11}$     | Chain + Cycle | 3400  | 20394  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3400} \oplus \mathbb{Z}_{680}$    |
| (23,3611,315,2310,987)  | $z_0^{315} + z_0 z_1^2 + z_2^{23} + z_2 z_3^3 + z_3 z_4^5$         | Chain + Chain | 7245  | 94168  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{115} \oplus \mathbb{Z}_{23}$   |
| (325,1040,23,2751,1387) | $z_0^{17} + z_0 z_1^5 + z_1 z_2^{195} + z_2 z_3^2 + z_3 z_4^2$     | Chain         | 5525  | 49656  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{1105}$                            |
| (393,4323,3013,23,1288) | $z_0^{23} + z_0 z_1^2 + z_2^3 + z_2 z_3^{262} + z_3 z_4^7$         | Chain + Chain | 9039  | 113232 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^2$                          |
| (3556,1778,1339,23,417) | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{251} + z_3 z_4^{17}$         | BP + Cycle    | 7112  | 64005  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{3556}$                            |
| (1892,602,6321,23,4407) | $z_0^7 + z_1^{22} + z_1 z_2^2 + z_2 z_3^{301} + z_3 z_4^3$         | BP + Chain    | 13244 | 159066 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_7$                              |
| (7337,23,637,4679,1999) | $z_0^2 + z_0 z_1^{319} + z_1 z_2^{23} + z_2 z_3^3 + z_3 z_4^5$     | Chain         | 14674 | 190125 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{46}$                           |
| (5764,786,8253,23,2467) | $z_0^3 + z_1^{22} + z_1 z_2^2 + z_2 z_3^{393} + z_3 z_4^7$         | BP + Chain    | 17292 | 207550 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_3$                              |
| (305,61,427,99,24)      | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^9 + z_3 z_4^{34}$      | Chain + Cycle | 915   | 9792   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                          |
| (281,281,195,24,63)     | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{27} + z_3 z_4^{13}$          | BP + Cycle    | 843   | 5616   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{281})^2$                         |
| (333,111,24,65,467)     | $z_0^3 + z_0 z_1^6 + z_1 z_2^{37} + z_2 z_3^{15} + z_3 z_4^2$      | Chain         | 999   | 10640  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{111} \oplus \mathbb{Z}_{37}$   |
| (552,24,135,323,71)     | $z_0^2 + z_0 z_1^{23} + z_1 z_2^8 + z_2 z_3^3 + z_3 z_4^{11}$      | Chain         | 1104  | 11363  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{16}$                           |
| (305,305,183,99,24)     | $z_0^3 + z_1^3 + z_2^5 + z_4 z_3^9 + z_3 z_4^{34}$                 | BP + Cycle    | 915   | 4896   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                             |

| Weights                 | Polynomial  | Type          | $d$  | $\mu$  | $H_3(M, \mathbb{Z})$   |
|-------------------------|---|---------------|------|--------|--|
| (24,1968,165,1265,539)  | $z_0^{165} + z_0 z_1^2 + z_2^{24} + z_2 z_3^3 + z_3 z_4^5$        | Chain + Chain | 3960 | 51626  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{120} \oplus \mathbb{Z}_8$    |
| (372,24,273,281,167)    | $z_0^3 + z_0 z_1^{31} + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^5$        | Chain         | 1116 | 4745   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{12}$                            |
| (24,2100,177,1349,575)  | $z_0^{176} + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^3 + z_3 z_4^5$    | Chain         | 4224 | 54735  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{704}$                        |
| (4008,24,333,2561,1091) | $z_0^2 + z_0 z_1^{167} + z_1 z_2^{24} + z_2 z_3^3 + z_3 z_4^5$    | Chain         | 8016 | 103875 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{16}$                         |
| (24,570,867,479,365)    | $z_0^{96} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^5$        | Chain         | 2304 | 9695   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{192}$                           |
| (32,160,109,27,25)      | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{13}$     | Chain + Cycle | 352  | 4212   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{352} \oplus \mathbb{Z}_{32}$ |
| (25,35,55,29,57)        | $z_0^8 + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^5 + z_3 z_4^3$           | Chain         | 200  | 1287   | $\mathbb{Z}^8 \oplus \mathbb{Z}_8$                               |
| (243,81,352,29,25)      | $z_0^3 + z_1^9 + z_4 z_2^2 + z_2 z_3^{13} + z_3 z_4^{28}$         | BP + Cycle    | 729  | 11648  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{243} \oplus \mathbb{Z}_{81}$ |
| (377,31,322,25,243)     | $z_4 z_0^2 + z_0 z_1^{20} + z_1 z_2^3 + z_2 z_3^{27} + z_3 z_4^4$ | Cycle         | 997  | 12960  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{997}$                        |
| (421,619,161,38,25)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{29} + z_3 z_4^{49}$     | BP + Cycle    | 1263 | 22736  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_3$                            |
| (38,228,475,25,185)     | $z_0^{25} + z_0 z_1^4 + z_2^2 + z_2 z_3^{19} + z_3 z_4^5$         | Chain + Chain | 950  | 11628  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{10} \oplus (\mathbb{Z}_2)^3$ |
| (25,185,38,456,247)     | $z_0^{38} + z_0 z_1^5 + z_2^{25} + z_2 z_3^2 + z_3 z_4^2$         | Chain + Chain | 950  | 11322  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{10} \oplus \mathbb{Z}_2$     |
| (39,312,25,475,125)     | $z_0^{25} + z_0 z_1^3 + z_2^{39} + z_2 z_3^2 + z_3 z_4^4$         | Chain + Chain | 975  | 13872  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_{39})^3$                     |
| (77,154,85,25,45)       | $z_0^5 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^{12} + z_3 z_4^8$        | Chain + Cycle | 385  | 2304   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{77})^2$                        |
| (52,624,25,425,175)     | $z_0^{25} + z_0 z_1^2 + z_2^{52} + z_2 z_3^3 + z_3 z_4^5$         | Chain + Chain | 1300 | 17550  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{52})^2$                     |
| (59,253,139,56,25)      | $z_0^9 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^{19}$        | BP + Cycle    | 531  | 4256   | $\mathbb{Z}^8 \oplus \mathbb{Z}_9$                               |
| (392,56,253,59,25)      | $z_0^2 + z_1^{14} + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{29}$         | BP + Cycle    | 784  | 10179  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{112}$                        |
| (57,285,95,25,109)      | $z_0^{10} + z_1^2 + z_1 z_2^3 + z_2 z_3^{19} + z_3 z_4^5$         | BP + Chain    | 570  | 4149   | $\mathbb{Z}^8 \oplus \mathbb{Z}_6$                               |
| (112,336,253,59,25)     | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{29}$        | Chain + Cycle | 784  | 6264   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{784} \oplus \mathbb{Z}_{112}$   |
| (62,744,25,305,415)     | $z_0^{25} + z_0 z_1^2 + z_2^{62} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain | 1550 | 17706  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{62})^2$                     |
| (25,275,115,92,69)      | $z_0^{23} + z_0 z_1^2 + z_2^5 + z_2 z_3^5 + z_3 z_4^7$            | Chain + Chain | 575  | 3696   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_5)^2$                        |
| (69,207,575,25,850)     | $z_0^{25} + z_0 z_1^8 + z_2^3 + z_2 z_3^{46} + z_3 z_4^2$         | Chain + Chain | 1725 | 24640  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_3)^8$                        |
| (94,282,1175,25,775)    | $z_0^{25} + z_0 z_1^8 + z_2^2 + z_2 z_3^{47} + z_3 z_4^3$         | Chain + Chain | 2350 | 33264  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^8$                        |
| (25,775,94,564,893)     | $z_0^{94} + z_0 z_1^3 + z_2^{25} + z_2 z_3^4 + z_3 z_4^2$         | Chain + Chain | 2350 | 23436  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{50})^3 \oplus \mathbb{Z}_2$    |
| (114,228,95,25,109)     | $z_0^5 + z_0 z_1^2 + z_2^6 + z_2 z_3^{19} + z_3 z_4^5$            | Chain + Chain | 570  | 2766   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{30} \oplus \mathbb{Z}_6$        |
| (119,238,119,95,25)     | $z_0^5 + z_0 z_1^2 + z_1 z_2^3 + z_4 z_3^6 + z_3 z_4^{20}$        | Chain + Cycle | 595  | 2880   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                           |
| (25,380,103,911,507)    | $z_0^{77} + z_0 z_1^5 + z_1 z_2^{15} + z_2 z_3^2 + z_3 z_4^2$     | Chain         | 1925 | 17016  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{385}$                           |
| (253,253,115,25,620)    | $z_0^5 + z_1^5 + z_2^{11} + z_2 z_3^{46} + z_3 z_4^2$             | BP + Chain    | 1265 | 8256   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{11})^4$                        |
| (639,639,142,25,473)    | $z_0^3 + z_0 z_1^2 + z_1 z_2^9 + z_2 z_3^{71} + z_3 z_4^4$        | Chain         | 1917 | 11552  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_9$        |
| (25,185,190,152,399)    | $z_0^{38} + z_0 z_1^5 + z_2^5 + z_2 z_3^5 + z_3 z_4^2$            | Chain + Chain | 950  | 4437   | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                               |
| (155,1395,25,584,787)   | $z_0^{19} + z_0 z_1^2 + z_1 z_2^{62} + z_2 z_3^5 + z_3 z_4^3$     | Chain         | 2945 | 25896  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{589} \oplus \mathbb{Z}_{31}$ |
| (611,2444,188,25,1621)  | $z_0^8 + z_1^2 + z_1 z_2^{13} + z_2 z_3^{188} + z_3 z_4^3$        | BP + Chain    | 4888 | 68607  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{104}$                        |
| (1222,1833,188,25,1621) | $z_0^4 + z_0 z_1^2 + z_2^{26} + z_2 z_3^{188} + z_3 z_4^3$        | Chain + Chain | 4888 | 49005  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{52}$                         |
| (1195,239,717,215,25)   | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{11} + z_3 z_4^{87}$     | Chain + Cycle | 2390 | 20097  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                            |
| (1195,478,478,215,25)   | $z_0^2 + z_1^5 + z_2^5 + z_4 z_3^{11} + z_3 z_4^{87}$             | BP + Cycle    | 2390 | 15312  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^4$                           |

| Weights                  | Polynomial   | Type              | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|--------------------------|--|-------------------|-------|--------|--|
| (478,956,717,215,25)     | $z_0^5 + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^{11} + z_3 z_4^{87}$      | Chain + Cycle     | 2390  | 13398  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{10})^2 \oplus \mathbb{Z}_5$        |
| (752,1504,235,25,1245)   | $z_0^5 + z_0 z_1^2 + z_2^{16} + z_2 z_3^{141} + z_3 z_4^3$         | Chain + Chain     | 3760  | 27162  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{16})^2$                         |
| (2288,286,3289,25,977)   | $z_0^3 + z_0 z_1^{16} + z_1 z_2^2 + z_2 z_3^{143} + z_3 z_4^7$     | Chain             | 6864  | 82418  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$            |
| (1233,25,877,332,1067)   | $z_4 z_0^2 + z_0 z_1^{92} + z_1 z_2^4 + z_2 z_3^8 + z_3 z_4^3$     | Cycle             | 3533  | 17664  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3533}$                              |
| (1837,334,2195,25,1455)  | $z_1 z_0^3 + z_0 z_1^{12} + z_4 z_2^2 + z_2 z_3^{146} + z_3 z_4^4$ | Cycle + Cycle     | 5845  | 42048  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1169} \oplus \mathbb{Z}_{167}$      |
| (1795,1077,2154,335,25)  | $z_0^3 + z_1^5 + z_1 z_2^2 + z_4 z_3^{16} + z_3 z_4^{202}$         | BP+ Chain + Cycle | 5385  | 38784  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                            |
| (2139,2852,345,25,5335)  | $z_0^5 + z_0 z_1^3 + z_2^{31} + z_2 z_3^{414} + z_3 z_4^2$         | Chain + Chain     | 10695 | 141504 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{31}$                             |
| (25,6025,1725,414,3887)  | $z_0^{483} + z_0 z_1^2 + z_2^7 + z_2 z_3^{25} + z_3 z_4^3$         | Chain + Chain     | 12075 | 172304 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{21}$                             |
| (1901,25,1069,808,499)   | $z_4 z_0^2 + z_0 z_1^{96} + z_1 z_2^4 + z_2 z_3^4 + z_3 z_4^7$     | Cycle             | 4301  | 21504  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{4301}$                              |
| (621,2277,506,25,3403)   | $z_0^{11} + z_1^3 + z_1 z_2^9 + z_2 z_3^{253} + z_3 z_4^2$         | BP + Chain        | 6831  | 68560  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{11}$                             |
| (10785,4314,5752,695,25) | $z_0^2 + z_1^5 + z_1 z_2^3 + z_4 z_3^{31} + z_3 z_4^{835}$         | BP+ Chain + Cycle | 21570 | 284735 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_2$                                |
| (10775,25,3075,739,6937) | $z_0^2 + z_0 z_1^{431} + z_1 z_2^7 + z_2 z_3^{25} + z_3 z_4^3$     | Chain             | 21550 | 306873 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_2$                                |
| (6453,4302,956,25,1171)  | $z_0^2 + z_1^3 + z_1 z_2^9 + z_2 z_3^{478} + z_3 z_4^{11}$         | BP + Chain        | 12906 | 129085 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_2$                                |
| (39,117,26,28,181)       | $z_0^{10} + z_0 z_1^3 + z_2^{15} + z_2 z_3^{13} + z_3 z_4^2$       | Chain + Chain     | 390   | 4389   | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{30} \oplus (\mathbb{Z}_3)^2$     |
| (105,63,30,26,197)       | $z_0^4 + z_0 z_1^5 + z_2^{14} + z_2 z_3^{15} + z_3 z_4^2$          | Chain + Chain     | 420   | 3791   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{140}$                               |
| (26,234,481,37,185)      | $z_0^{37} + z_0 z_1^4 + z_2^2 + z_2 z_3^{13} + z_3 z_4^5$          | Chain + Chain     | 962   | 11760  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^4$                            |
| (37,185,26,468,247)      | $z_0^{26} + z_0 z_1^5 + z_2^{37} + z_2 z_3^2 + z_3 z_4^2$          | Chain + Chain     | 962   | 11550  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{74})^2 \oplus (\mathbb{Z}_{37})^3$ |
| (405,81,243,56,26)       | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{14} + z_3 z_4^{29}$      | Chain + Cycle     | 810   | 8526   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^2$                            |
| (343,98,26,673,233)      | $z_0^4 + z_1^{14} + z_1 z_2^{49} + z_2 z_3^2 + z_3 z_4^3$          | BP + Chain        | 1372  | 10251  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{196}$                               |
| (2366,26,181,1517,643)   | $z_0^2 + z_0 z_1^{91} + z_1 z_2^{26} + z_2 z_3^3 + z_3 z_4^5$      | Chain             | 4732  | 61335  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{52}$                             |
| (26,212,1285,499,761)    | $z_0^{107} + z_0 z_1^{13} + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^3$     | Chain             | 2782  | 18189  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{214}$                               |
| (26,2340,1183,271,887)   | $z_0^{181} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{13} + z_3 z_4^5$     | Chain             | 4706  | 38190  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{362} \oplus \mathbb{Z}_2$           |
| (5837,26,1664,385,3763)  | $z_0^2 + z_1^{449} + z_1 z_2^7 + z_2 z_3^{26} + z_3 z_4^3$         | BP + Chain        | 11674 | 166131 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_2)^7$                            |
| (297,27,108,29,431)      | $z_0^3 + z_0 z_1^{22} + z_1 z_2^8 + z_2 z_3^{27} + z_3 z_4^2$      | Chain             | 891   | 14720  | $\mathbb{Z}^{30} \oplus \mathbb{Z}_3$                                |
| (27,30,179,97,235)       | $z_0^{21} + z_0 z_1^{18} + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^2$      | Chain             | 567   | 5312   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{63} \oplus \mathbb{Z}_3$            |
| (209,209,33,27,150)      | $z_0^3 + z_1^3 + z_2^{19} + z_2 z_3^{22} + z_3 z_4^4$              | BP + Chain        | 627   | 5088   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{19})^2$                         |
| (34,238,51,27,161)       | $z_0^{15} + z_0 z_1^2 + z_2^{10} + z_2 z_3^{17} + z_3 z_4^3$       | Chain + Chain     | 510   | 5584   | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{30} \oplus \mathbb{Z}_2$         |
| (27,297,34,442,119)      | $z_0^{34} + z_0 z_1^3 + z_2^{27} + z_2 z_3^2 + z_3 z_4^4$          | Chain + Chain     | 918   | 12972  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_{54})^2 \oplus \mathbb{Z}_{27}$  |
| (27,117,204,35,347)      | $z_0^{27} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{15} + z_3 z_4^2$      | Chain             | 729   | 7640   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{81} \oplus \mathbb{Z}_3$         |
| (35,182,27,459,243)      | $z_0^{27} + z_0 z_1^5 + z_2^{35} + z_2 z_3^2 + z_3 z_4^2$          | Chain + Chain     | 945   | 11336  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_7$                                |
| (27,36,141,53,203)       | $z_0^{17} + z_0 z_1^{12} + z_1 z_2^3 + z_2 z_3^6 + z_3 z_4^2$      | Chain             | 459   | 4096   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{51} \oplus (\mathbb{Z}_3)^3$        |
| (41,111,44,27,65)        | $z_0^7 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^9 + z_3 z_4^4$            | BP + Cycle        | 287   | 1728   | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                                   |
| (209,44,531,279,27)      | $z_1 z_0^5 + z_0 z_1^{20} + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^{30}$  | Cycle + Cycle     | 1089  | 12000  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{121} \oplus \mathbb{Z}_{11}$     |
| (47,611,27,414,171)      | $z_0^{27} + z_0 z_1^2 + z_2^{47} + z_2 z_3^3 + z_3 z_4^5$          | Chain + Chain     | 1269  | 17080  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{47})^2$                         |
| (297,27,96,53,419)       | $z_0^3 + z_0 z_1^{22} + z_1 z_2^9 + z_2 z_3^{15} + z_3 z_4^2$      | Chain             | 891   | 9440   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_9$         |

| Weights                 | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|-------|--------|--|
| (56,728,27,297,405)     | $z_0^{27} + z_0 z_1^2 + z_2^{56} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain | 1512  | 17220  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{56})^2$                         |
| (57,228,27,119,311)     | $z_0^{13} + z_0 z_1^3 + z_1 z_2^{19} + z_2 z_3^6 + z_3 z_4^2$  | Chain         | 741   | 5160   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{247} \oplus (\mathbb{Z}_{19})^2$    |
| (317,317,231,60,27)     | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{12} + z_3 z_4^{33}$      | BP + Cycle    | 951   | 6336   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{317})^2$                           |
| (534,356,623,63,27)     | $z_0^3 + z_0 z_1^3 + z_1 z_2^2 + z_4 z_3^{25} + z_3 z_4^{57}$  | Chain + Cycle | 1602  | 15675  | $\mathbb{Z}^8 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^8$           |
| (68,102,357,27,263)     | $z_0^{12} + z_1^8 + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^3$      | BP + Chain    | 816   | 6083   | $\mathbb{Z}^8 \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$           |
| (27,297,102,68,425)     | $z_0^{34} + z_0 z_1^3 + z_2^9 + z_2 z_3^{12} + z_3 z_4^2$      | Chain + Chain | 918   | 8004   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{18})^3 \oplus \mathbb{Z}_2$        |
| (68,221,918,27,603)     | $z_0^{27} + z_0 z_1^8 + z_2^2 + z_2 z_3^{34} + z_3 z_4^3$      | Chain + Chain | 1836  | 26030  | $\mathbb{Z}^{16} \oplus \mathbb{Z}_3$                                |
| (27,603,68,442,697)     | $z_0^{68} + z_0 z_1^3 + z_2^{27} + z_2 z_3^4 + z_3 z_4^2$      | Chain + Chain | 1836  | 18358  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{18} \oplus \mathbb{Z}_2$         |
| (27,999,75,650,275)     | $z_0^{75} + z_0 z_1^2 + z_2^{27} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain | 2025  | 26600  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_9$         |
| (165,110,77,117,27)     | $z_0^3 + z_0 z_1^3 + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{14}$     | Chain + Cycle | 495   | 2128   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{15} \oplus \mathbb{Z}_3$            |
| (27,378,87,179,491)     | $z_0^{43} + z_0 z_1^3 + z_1 z_2^9 + z_2 z_3^6 + z_3 z_4^2$     | Chain         | 1161  | 8040   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{387} \oplus (\mathbb{Z}_9)^2$       |
| (27,135,414,92,575)     | $z_0^{46} + z_0 z_1^9 + z_2^3 + z_2 z_3^9 + z_3 z_4^2$         | Chain + Chain | 1242  | 10701  | $\mathbb{Z}^8 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^8$           |
| (27,729,495,110,125)    | $z_0^{55} + z_0 z_1^2 + z_2^3 + z_2 z_3^9 + z_3 z_4^{11}$      | Chain + Chain | 1485  | 15232  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{33} \oplus \mathbb{Z}_3$         |
| (27,243,414,119,683)    | $z_0^{55} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^9 + z_3 z_4^2$     | Chain         | 1485  | 9624   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{165} \oplus (\mathbb{Z}_3)^5$       |
| (119,1547,459,27,1062)  | $z_0^{27} + z_0 z_1^2 + z_2^7 + z_2 z_3^{102} + z_3 z_4^3$     | Chain + Chain | 3213  | 40152  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2 \oplus (\mathbb{Z}_3)^4$ |
| (27,351,120,437,497)    | $z_0^{53} + z_0 z_1^4 + z_1 z_2^9 + z_2 z_3^3 + z_3 z_4^2$     | Chain         | 1431  | 7472   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{477} \oplus (\mathbb{Z}_9)^3$       |
| (800,160,493,27,121)    | $z_0^2 + z_1^{10} + z_4 z_2^3 + z_2 z_3^{41} + z_3 z_4^{13}$   | BP + Cycle    | 1600  | 14391  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{320}$                               |
| (320,640,493,27,121)    | $z_0^5 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{41} + z_3 z_4^{13}$  | Chain + Cycle | 1600  | 9594   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1600} \oplus \mathbb{Z}_{320}$      |
| (125,1000,425,27,1549)  | $z_0^{25} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{100} + z_3 z_4^2$ | Chain         | 3125  | 37824  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{125} \oplus (\mathbb{Z}_5)^2$    |
| (170,680,153,27,501)    | $z_0^9 + z_0 z_1^2 + z_2^{10} + z_2 z_3^{51} + z_3 z_4^3$      | Chain + Chain | 1530  | 10290  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{30})^2 \oplus \mathbb{Z}_3$        |
| (27,594,1395,155,2015)  | $z_0^{155} + z_0 z_1^7 + z_2^3 + z_2 z_3^{18} + z_3 z_4^2$     | Chain + Chain | 4185  | 52136  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_3)^7$                            |
| (164,656,423,27,207)    | $z_0^9 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{39} + z_3 z_4^7$     | Chain + Cycle | 1476  | 8190   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{164})^2$                           |
| (1470,294,27,971,179)   | $z_0^2 + z_0 z_1^5 + z_1 z_2^{98} + z_2 z_3^3 + z_3 z_4^{11}$  | Chain         | 2940  | 30371  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{196}$                            |
| (699,233,932,207,27)    | $z_0^3 + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^{10} + z_3 z_4^{70}$  | Chain + Cycle | 2097  | 14000  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                               |
| (319,569,27,224,457)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^{38} + z_2 z_3^7 + z_3 z_4^3$     | BP + Cycle    | 1595  | 6384   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                                   |
| (27,909,306,272,1241)   | $z_0^{102} + z_0 z_1^3 + z_2^9 + z_2 z_3^9 + z_3 z_4^2$        | Chain + Chain | 2754  | 18245  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                                |
| (282,2256,27,1589,641)  | $z_0^{17} + z_0 z_1^2 + z_1 z_2^{94} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 4794  | 41530  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{1598} \oplus \mathbb{Z}_{94}$       |
| (1309,308,27,3259,1643) | $z_0^5 + z_0 z_1^{17} + z_1 z_2^{231} + z_2 z_3^2 + z_3 z_4^2$ | Chain         | 6545  | 58824  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{385}$                               |
| (333,27,2100,1409,2459) | $z_0^{19} + z_0 z_1^{222} + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^2$ | Chain         | 6327  | 46416  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{57} \oplus (\mathbb{Z}_3)^5$        |
| (3556,1778,1417,335,27) | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{17} + z_3 z_4^{251}$     | BP + Cycle    | 7112  | 64005  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{3556}$                              |
| (2802,1868,3269,441,27) | $z_0^3 + z_0 z_1^3 + z_1 z_2^2 + z_4 z_3^{19} + z_3 z_4^{295}$ | Chain + Cycle | 8406  | 61655  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^6$           |
| (1557,27,3624,485,5207) | $z_0^7 + z_0 z_1^{346} + z_1 z_2^3 + z_2 z_3^{15} + z_3 z_4^2$ | Chain         | 10899 | 113840 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$         |
| (27,570,1529,907,2125)  | $z_0^{191} + z_0 z_1^9 + z_1 z_2^3 + z_2 z_3^4 + z_3 z_4^2$    | Chain         | 5157  | 24256  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{573}$                               |
| (4650,620,6665,1989,27) | $z_0^3 + z_0 z_1^{15} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{443}$ | Chain + Cycle | 13950 | 145747 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^2$        |
| (33,143,42,28,217)      | $z_0^{14} + z_0 z_1^3 + z_2^{11} + z_2 z_3^{15} + z_3 z_4^2$   | Chain + Chain | 462   | 5075   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{22} \oplus (\mathbb{Z}_2)^4$     |

| Weights                 | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|---------------|-------|--------|--|
| (33,297,28,448,119)     | $z_0^{28} + z_0 z_1^3 + z_2^{33} + z_2 z_3^2 + z_3 z_4^4$          | Chain + Chain | 924   | 13110  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{132})^2 \oplus \mathbb{Z}_{33}$ |
| (39,39,182,28,259)      | $z_0^{14} + z_1^{14} + z_2^3 + z_2 z_3^{13} + z_3 z_4^2$           | BP + Chain    | 546   | 6929   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^{12}$     |
| (45,210,28,301,47)      | $z_0^{14} + z_1^3 + z_1 z_2^{15} + z_2 z_3^2 + z_3 z_4^7$          | BP + Chain    | 630   | 7579   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                                |
| (47,423,28,322,497)     | $z_0^{28} + z_0 z_1^3 + z_2^{47} + z_2 z_3^4 + z_3 z_4^2$          | Chain + Chain | 1316  | 13338  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{94})^2 \oplus \mathbb{Z}_{47}$     |
| (371,53,53,238,28)      | $z_0^2 + z_1^{14} + z_2^{14} + z_4 z_3^3 + z_3 z_4^{18}$           | BP + Cycle    | 742   | 9126   | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_2)^2$                            |
| (28,476,63,131,283)     | $z_0^{35} + z_0 z_1^2 + z_1 z_2^8 + z_2 z_3^7 + z_3 z_4^3$         | Chain         | 980   | 8364   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{140} \oplus \mathbb{Z}_4$        |
| (28,896,65,585,247)     | $z_0^{65} + z_0 z_1^2 + z_2^{28} + z_2 z_3^3 + z_3 z_4^5$          | Chain + Chain | 1820  | 23958  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{140})^2 \oplus \mathbb{Z}_5$    |
| (525,75,350,28,73)      | $z_0^2 + z_1^{14} + z_2^3 + z_2 z_3^{25} + z_3 z_4^{14}$           | BP + Chain    | 1050  | 12701  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                                |
| (721,411,283,28,101)    | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{45} + z_3 z_4^{15}$  | Cycle         | 1543  | 10800  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1543}$                              |
| (117,507,182,28,805)    | $z_0^{14} + z_0 z_1^3 + z_2^9 + z_2 z_3^{52} + z_3 z_4^2$          | Chain + Chain | 1638  | 13804  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_2)^3$        |
| (175,175,28,121,377)    | $z_0^5 + z_0 z_1^4 + z_1 z_2^{25} + z_2 z_3^7 + z_3 z_4^2$         | Chain         | 875   | 3984   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{125} \oplus (\mathbb{Z}_{25})^3$    |
| (28,2716,195,1053,1469) | $z_0^{195} + z_0 z_1^2 + z_2^{28} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain | 5460  | 60172  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{84} \oplus \mathbb{Z}_{28}$      |
| (28,2898,209,1123,1567) | $z_0^{208} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^5 + z_3 z_4^3$     | Chain         | 5824  | 63855  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2912}$                           |
| (1043,28,2461,1391,321) | $z_1 z_0^5 + z_0 z_1^{150} + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^{12}$ | Cycle + Cycle | 5243  | 36000  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{49} \oplus \mathbb{Z}_7$            |
| (5488,28,391,2117,2953) | $z_0^2 + z_0 z_1^{196} + z_1 z_2^{28} + z_2 z_3^5 + z_3 z_4^3$     | Chain         | 10976 | 120345 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{56}$                             |
| (77,154,89,37,29)       | $z_0^5 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^8 + z_3 z_4^{12}$         | Chain + Cycle | 385   | 2304   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{385} \oplus \mathbb{Z}_{77}$        |
| (44,66,253,29,181)      | $z_0^{13} + z_0 z_1^8 + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^3$      | Chain         | 572   | 4692   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{26} \oplus (\mathbb{Z}_2)^3$        |
| (44,528,143,29,357)     | $z_0^{25} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{33} + z_3 z_4^3$      | Chain         | 1100  | 13374  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{100} \oplus \mathbb{Z}_4$        |
| (45,45,54,29,143)       | $z_0^7 + z_0 z_1^6 + z_1 z_2^5 + z_2 z_3^9 + z_3 z_4^2$            | Chain         | 315   | 2064   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{35} \oplus (\mathbb{Z}_5)^5$        |
| (45,420,29,319,493)     | $z_0^{29} + z_0 z_1^3 + z_2^{45} + z_2 z_3^4 + z_3 z_4^2$          | Chain + Chain | 1305  | 13216  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{15}$                             |
| (325,118,51,157,29)     | $z_4 z_0^2 + z_0 z_1^3 + z_1 z_2^{11} + z_2 z_3^4 + z_3 z_4^{18}$  | Cycle         | 679   | 4752   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{679}$                               |
| (29,87,145,65,52)       | $z_0^{13} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^6$         | Chain + Cycle | 377   | 1920   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{13})^2$                            |
| (29,522,55,385,605)     | $z_0^{55} + z_0 z_1^3 + z_2^{29} + z_2 z_3^4 + z_3 z_4^2$          | Chain + Chain | 1595  | 15984  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{29})^3$                         |
| (29,667,290,60,985)     | $z_0^{70} + z_0 z_1^3 + z_2^7 + z_2 z_3^{29} + z_3 z_4^2$          | Chain + Chain | 2030  | 29469  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_{14}$                             |
| (29,522,759,209,77)     | $z_0^{55} + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^4 + z_3 z_4^{18}$      | Chain + Cycle | 1595  | 15984  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{145} \oplus (\mathbb{Z}_{29})^2$    |
| (880,110,165,29,577)    | $z_0^2 + z_0 z_1^8 + z_1 z_2^{10} + z_2 z_3^{55} + z_3 z_4^3$      | Chain         | 1760  | 17745  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_4$                                |
| (440,110,1485,29,1017)  | $z_0^7 + z_0 z_1^{24} + z_1 z_2^2 + z_2 z_3^{55} + z_3 z_4^3$      | Chain         | 3080  | 37134  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^5$     |
| (163,322,29,131,171)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^{17} + z_2 z_3^6 + z_3 z_4^4$         | BP + Cycle    | 815   | 3264   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                                   |
| (29,1943,135,756,1053)  | $z_0^{135} + z_0 z_1^2 + z_2^{29} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain | 3915  | 43248  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{29})^2$                         |
| (154,220,737,29,555)    | $z_0^{11} + z_0 z_1^7 + z_1 z_2^2 + z_2 z_3^{33} + z_3 z_4^3$      | Chain         | 1694  | 10251  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{22}$                                |
| (220,770,165,29,577)    | $z_0^8 + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^{55} + z_3 z_4^3$         | Chain         | 1760  | 10647  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{16}$                                |
| (29,638,279,171,189)    | $z_0^{45} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^6 + z_3 z_4^6$         | Chain + Cycle | 1305  | 6624   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{145} \oplus \mathbb{Z}_{29}$        |
| (223,467,216,29,181)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^3 + z_2 z_3^{31} + z_3 z_4^6$         | BP + Cycle    | 1115  | 4464   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                                   |
| (648,216,223,29,181)    | $z_0^2 + z_1^6 + z_4 z_2^5 + z_2 z_3^{37} + z_3 z_4^7$             | BP + Cycle    | 1296  | 6475   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{432}$                               |
| (432,432,223,29,181)    | $z_0^3 + z_1^3 + z_4 z_2^5 + z_2 z_3^{37} + z_3 z_4^7$             | BP + Cycle    | 1296  | 5180   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1296} \oplus \mathbb{Z}_{432}$      |

| Weights                   | Polynomial  | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|---------------------------|---|---------------|-------|--------|--|
| (1117,191,259,668,29)     | $z_4 z_0^2 + z_0 z_1^6 + z_1 z_2^8 + z_2 z_3^3 + z_3 z_4^{55}$    | Cycle         | 2263  | 15840  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{2263}$                              |
| (787,1027,29,212,307)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^{46} + z_2 z_3^{11} + z_3 z_4^7$     | BP + Cycle    | 2361  | 14168  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                                   |
| (1377,459,216,29,2051)    | $z_0^3 + z_0 z_1^6 + z_1 z_2^{17} + z_2 z_3^{135} + z_3 z_4^2$    | Chain         | 4131  | 41600  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{51} \oplus \mathbb{Z}_{17}$      |
| (567,5292,2349,29,8207)   | $z_0^{29} + z_0 z_1^3 + z_2^7 + z_2 z_3^{486} + z_3 z_4^2$        | Chain + Chain | 16443 | 201072 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_7$                                |
| (1002,9352,14529,29,4147) | $z_0^{29} + z_0 z_1^3 + z_2^2 + z_2 z_3^{501} + z_3 z_4^7$        | Chain + Chain | 29058 | 354767 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_2$                                |
| (32,30,225,51,143)        | $z_0^{15} + z_1^{16} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | BP + Chain    | 480   | 4718   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_5$                                |
| (101,101,39,33,30)        | $z_0^3 + z_1^3 + z_4 z_2^7 + z_2 z_3^8 + z_3 z_4^9$               | BP + Cycle    | 303   | 2016   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{101})^2$                           |
| (215,43,43,100,30)        | $z_0^2 + z_1^{10} + z_2^{10} + z_4 z_3^4 + z_3 z_4^{11}$          | BP + Cycle    | 430   | 3564   | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_2)^2$                            |
| (65,65,30,72,159)         | $z_0^6 + z_1^6 + z_2^{13} + z_2 z_3^5 + z_3 z_4^2$                | BP + Chain    | 390   | 1925   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{26} \oplus (\mathbb{Z}_{13})^4$     |
| (80,30,465,99,287)        | $z_0^{12} + z_1^{32} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | BP + Chain    | 960   | 7403   | $\mathbb{Z}^8 \oplus \mathbb{Z}_8 \oplus (\mathbb{Z}_2)^2$           |
| (125,30,144,303,149)      | $z_0^6 + z_1^{25} + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^3$            | BP + Chain    | 750   | 3005   | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                                   |
| (159,477,30,260,665)      | $z_0^{10} + z_0 z_1^3 + z_2^{53} + z_2 z_3^6 + z_3 z_4^2$         | Chain + Chain | 1590  | 7770   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{106})^2 \oplus \mathbb{Z}_{53}$    |
| (33,495,341,31,124)       | $z_0^{31} + z_0 z_1^2 + z_2^3 + z_2 z_3^{22} + z_3 z_4^8$         | Chain + Chain | 1023  | 14848  | $\mathbb{Z}^{28} \oplus (\mathbb{Z}_3)^2$                            |
| (297,198,529,35,31)       | $z_1 z_0^3 + z_0 z_1^4 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{34}$ | Cycle + Cycle | 1089  | 13056  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{1089} \oplus \mathbb{Z}_{99}$    |
| (85,255,188,37,31)        | $z_0^7 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{11} + z_3 z_4^{18}$     | Chain + Cycle | 595   | 4752   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{595} \oplus \mathbb{Z}_{85}$        |
| (944,236,59,31,619)       | $z_0^2 + z_0 z_1^4 + z_1 z_2^{28} + z_2 z_3^{59} + z_3 z_4^3$     | Chain         | 1888  | 26649  | $\mathbb{Z}^{20} \oplus \mathbb{Z}_8$                                |
| (472,708,59,31,619)       | $z_0^4 + z_0 z_1^2 + z_1 z_2^{20} + z_2 z_3^{59} + z_3 z_4^3$     | Chain         | 1888  | 19035  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{16}$                             |
| (145,87,406,31,637)       | $z_0^9 + z_1^{15} + z_1 z_2^3 + z_2 z_3^{29} + z_3 z_4^2$         | BP + Chain    | 1305  | 10688  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_3$                                |
| (31,1333,87,522,725)      | $z_0^{87} + z_0 z_1^2 + z_2^{31} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain | 2697  | 29920  | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_{93})^2 \oplus (\mathbb{Z}_3)^3$ |
| (102,238,289,31,157)      | $z_0^8 + z_0 z_1^3 + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^5$        | Chain         | 816   | 3295   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{16}$                                |
| (118,708,1121,31,973)     | $z_0^{25} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{59} + z_3 z_4^3$     | Chain         | 2950  | 23724  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{50} \oplus (\mathbb{Z}_2)^3$        |
| (648,216,253,149,31)      | $z_0^2 + z_1^6 + z_4 z_2^5 + z_2 z_3^7 + z_3 z_4^{37}$            | BP + Cycle    | 1296  | 6475   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{432}$                               |
| (432,432,253,149,31)      | $z_0^3 + z_1^3 + z_4 z_2^5 + z_2 z_3^7 + z_3 z_4^{37}$            | BP + Cycle    | 1296  | 5180   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1296} \oplus \mathbb{Z}_{432}$      |
| (31,899,310,413,177)      | $z_0^{59} + z_0 z_1^2 + z_1 z_2^3 + z_4 z_3^4 + z_3 z_4^8$        | Chain + Cycle | 1829  | 9408   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{59})^2$                            |
| (203,2030,899,31,3131)    | $z_0^{31} + z_0 z_1^3 + z_2^7 + z_2 z_3^{174} + z_3 z_4^2$        | Chain + Chain | 6293  | 77112  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_7)^3$                            |
| (1700,340,1123,207,31)    | $z_0^2 + z_1^{10} + z_4 z_2^3 + z_2 z_3^{11} + z_3 z_4^{103}$     | BP + Cycle    | 3400  | 30591  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{680}$                               |
| (680,1360,1123,207,31)    | $z_0^5 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{11} + z_3 z_4^{103}$    | Chain + Cycle | 3400  | 20394  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3400} \oplus \mathbb{Z}_{680}$      |
| (2475,990,3697,233,31)    | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{232}$    | Chain + Cycle | 7425  | 96512  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{1485}$                           |
| (1485,1980,3697,233,31)   | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{232}$    | Chain + Cycle | 7425  | 81664  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2475}$                           |
| (5216,326,31,3467,1393)   | $z_0^2 + z_0 z_1^{16} + z_1 z_2^{326} + z_2 z_3^3 + z_3 z_4^5$    | Chain         | 10432 | 135585 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{652}$                            |
| (1107,1107,748,31,329)    | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{83} + z_3 z_4^{10}$         | BP + Cycle    | 3321  | 13280  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{3321} \oplus \mathbb{Z}_{1107}$     |
| (358,3580,5549,31,1581)   | $z_0^{31} + z_0 z_1^3 + z_2^2 + z_2 z_3^{179} + z_3 z_4^7$        | Chain + Chain | 11098 | 135387 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_2)^3$                            |
| (31,3131,1769,377,986)    | $z_0^{203} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{12} + z_3 z_4^6$    | Chain + Cycle | 6293  | 44064  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{217} \oplus \mathbb{Z}_{31}$        |
| (2769,4138,379,991,31)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^{11} + z_2 z_3^8 + z_3 z_4^{236}$    | BP + Cycle    | 8307  | 83072  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                                |
| (6208,388,31,2477,3313)   | $z_0^2 + z_0 z_1^{16} + z_1 z_2^{388} + z_2 z_3^5 + z_3 z_4^3$    | Chain         | 12416 | 136545 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{776}$                            |

| Weights                 | Polynomial   | Type              | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|-------------------------|--|-------------------|-------|--------|---|
| (2425,1946,31,449,1467) | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^{141} + z_2 z_3^{14} + z_3 z_4^4$ | Cycle             | 6317  | 31584  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{6317}$                               |
| (31,3131,1943,725,464)  | $z_0^{203} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^6 + z_3 z_4^{12}$     | Chain + Cycle     | 6293  | 44064  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{217} \oplus \mathbb{Z}_{31}$         |
| (5192,472,1239,31,3451) | $z_0^2 + z_0 z_1^{11} + z_1 z_2^8 + z_2 z_3^{295} + z_3 z_4^3$     | Chain             | 10384 | 103995 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{16}$                              |
| (2755,31,509,2216,1647) | $z_4 z_0^2 + z_0 z_1^{142} + z_1 z_2^{14} + z_2 z_3^3 + z_3 z_4^3$ | Cycle             | 7157  | 35784  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{7157}$                               |
| (32,704,45,465,195)     | $z_0^{45} + z_0 z_1^2 + z_2^{32} + z_2 z_3^3 + z_3 z_4^5$          | Chain + Chain     | 1440  | 19090  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_{32})^2$                          |
| (32,1184,75,465,645)    | $z_0^{75} + z_0 z_1^2 + z_2^{32} + z_2 z_3^5 + z_3 z_4^3$          | Chain + Chain     | 2400  | 26676  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{32})^2$                          |
| (223,377,123,32,361)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^6 + z_2 z_3^{31} + z_3 z_4^3$         | BP + Cycle        | 1115  | 4464   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                                    |
| (35,175,55,33,88)       | $z_0^{11} + z_0 z_1^2 + z_2^7 + z_2 z_3^{10} + z_3 z_4^4$          | Chain + Chain     | 385   | 2592   | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                             |
| (245,245,174,33,39)     | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{17} + z_3 z_4^{18}$          | BP + Cycle        | 735   | 4896   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{245})^2$                            |
| (46,736,33,297,407)     | $z_0^{33} + z_0 z_1^2 + z_2^{46} + z_2 z_3^5 + z_3 z_4^3$          | Chain + Chain     | 1518  | 17170  | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_{138})^2 \oplus (\mathbb{Z}_3)^3$ |
| (341,33,1177,775,62)    | $z_0^7 + z_0 z_1^{62} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{26}$      | Chain + Cycle     | 2387  | 34320  | $\mathbb{Z}^{22} \oplus \mathbb{Z}_7$                                 |
| (33,121,374,68,527)     | $z_0^{34} + z_0 z_1^9 + z_2^3 + z_2 z_3^{11} + z_3 z_4^2$          | Chain + Chain     | 1122  | 9555   | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                                 |
| (253,33,361,76,323)     | $z_1 z_0^4 + z_0 z_1^{24} + z_4 z_2^2 + z_2 z_3^9 + z_3 z_4^3$     | Cycle + Cycle     | 1045  | 5184   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{55} \oplus \mathbb{Z}_{11}$          |
| (77,33,143,126,84)      | $z_0^6 + z_1^{14} + z_1 z_2^3 + z_4 z_3^3 + z_3 z_4^4$             | BP+ Chain + Cycle | 462   | 1740   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                                |
| (1129,83,736,311,33)    | $z_4 z_0^2 + z_0 z_1^{14} + z_1 z_2^3 + z_2 z_3^5 + z_3 z_4^{60}$  | Cycle             | 2291  | 25200  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{2291}$                            |
| (92,1058,591,33,435)    | $z_0^{24} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{49} + z_3 z_4^5$      | Chain + Cycle     | 2208  | 18375  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{368}$                                |
| (95,475,190,253,33)     | $z_0^{11} + z_0 z_1^2 + z_1 z_2^3 + z_4 z_3^4 + z_3 z_4^{24}$      | Chain + Cycle     | 1045  | 5184   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{11})^2$                             |
| (101,505,319,33,154)    | $z_0^{11} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{24} + z_3 z_4^7$      | Chain + Cycle     | 1111  | 6048   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{101})^2$                            |
| (110,660,33,117,401)    | $z_0^{12} + z_1^2 + z_1 z_2^{20} + z_2 z_3^{11} + z_3 z_4^3$       | BP + Chain        | 1320  | 10109  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{20}$                              |
| (33,451,154,112,637)    | $z_0^{42} + z_0 z_1^3 + z_2^9 + z_2 z_3^{11} + z_3 z_4^2$          | Chain + Chain     | 1386  | 9095   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                                 |
| (638,116,957,33,171)    | $z_0^3 + z_0 z_1^{11} + z_2^2 + z_2 z_3^{29} + z_3 z_4^{11}$       | Chain + Chain     | 1914  | 18011  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_2$                                 |
| (117,390,33,209,539)    | $z_0^{11} + z_0 z_1^3 + z_2^{39} + z_2 z_3^6 + z_3 z_4^2$          | Chain + Chain     | 1287  | 6256   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{13}$                                 |
| (220,550,33,117,401)    | $z_0^6 + z_0 z_1^2 + z_2^{40} + z_2 z_3^{11} + z_3 z_4^3$          | Chain + Chain     | 1320  | 6433   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{60}$                                 |
| (2958,174,33,1961,791)  | $z_0^2 + z_0 z_1^{17} + z_1 z_2^{174} + z_2 z_3^3 + z_3 z_4^5$     | Chain             | 5916  | 76875  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{116}$                             |
| (33,1892,347,2681,757)  | $z_0^{173} + z_0 z_1^3 + z_1 z_2^{11} + z_2 z_3^2 + z_3 z_4^4$     | Chain             | 5709  | 39616  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1903}$                               |
| (1045,475,2375,1298,33) | $z_0^5 + z_1^{11} + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^{119}$         | BP+ Chain + Cycle | 5225  | 22848  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                                |
| (508,2540,1397,33,1111) | $z_0^{11} + z_0 z_1^2 + z_2^4 + z_2 z_3^{127} + z_3 z_4^5$         | Chain + Chain     | 5588  | 24420  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_4)^2$                                |
| (33,671,3707,2205,1470) | $z_0^{245} + z_0 z_1^{12} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^4$     | Chain + Cycle     | 8085  | 38208  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{245})^2$                            |
| (247,39,845,34,565)     | $z_0^7 + z_0 z_1^{38} + z_1 z_2^2 + z_2 z_3^{26} + z_3 z_4^3$      | Chain             | 1729  | 27936  | $\mathbb{Z}^{18} \oplus \mathbb{Z}_7$                                 |
| (34,408,629,61,535)     | $z_0^{49} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^3$      | Chain             | 1666  | 13572  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{98} \oplus (\mathbb{Z}_2)^3$         |
| (1627,34,1415,179,1025) | $z_4 z_0^2 + z_0 z_1^{78} + z_1 z_2^3 + z_2 z_3^{16} + z_3 z_4^4$  | Cycle             | 4279  | 29952  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{4279}$                               |
| (675,675,461,34,181)    | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{46} + z_3 z_4^{11}$          | BP + Cycle        | 2025  | 8096   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2025} \oplus \mathbb{Z}_{675}$       |
| (34,952,3349,197,2167)  | $z_0^{197} + z_0 z_1^7 + z_2^2 + z_2 z_3^{17} + z_3 z_4^3$         | Chain + Chain     | 6698  | 81627  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_2)^7$                             |
| (1499,873,593,34,247)   | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{78} + z_3 z_4^{13}$  | Cycle             | 3245  | 16224  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3245}$                               |
| (1071,34,313,2521,1417) | $z_0^5 + z_0 z_1^{126} + z_1 z_2^{17} + z_2 z_3^2 + z_3 z_4^2$     | Chain             | 5355  | 31504  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{85} \oplus \mathbb{Z}_{17}$          |



| Weights                 | Polynomial   | Type               | $d$  | $\mu$ | $H_3(M, \mathbb{Z})$   |
|-------------------------|--|--------------------|------|-------|--|
| (2159,34,379,3049,857)  | $z_0^3 + z_0 z_1^{127} + z_1 z_2^{17} + z_2 z_3^2 + z_3 z_4^4$ | Chain              | 6477 | 44960 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{51}$                                |
| (4777,34,560,1499,2685) | $z_0^2 + z_1^{281} + z_1 z_2^{17} + z_2 z_3^6 + z_3 z_4^3$     | BP + Chain         | 9554 | 61821 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                                   |
| (37,629,35,420,175)     | $z_0^{35} + z_0 z_1^2 + z_2^{37} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain      | 1295 | 17280 | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_{37})^2$                         |
| (35,315,45,39,197)      | $z_0^{18} + z_1^2 + z_1 z_2^7 + z_2 z_3^{15} + z_3 z_4^3$      | BP + Chain         | 630  | 7361  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{42}$                             |
| (40,80,35,49,77)        | $z_0^7 + z_0 z_1^3 + z_2^8 + z_2 z_3^5 + z_3 z_4^3$            | Chain + Chain      | 280  | 1305  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_8)^3$                               |
| (44,748,35,301,413)     | $z_0^{35} + z_0 z_1^2 + z_2^{44} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain      | 1540 | 17388 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{44})^2$                         |
| (72,144,45,35,65)       | $z_0^5 + z_0 z_1^2 + z_2^8 + z_2 z_3^9 + z_3 z_4^5$            | Chain + Chain      | 360  | 1770  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_8)^2$                               |
| (79,158,79,45,35)       | $z_0^5 + z_0 z_1^2 + z_1 z_2^3 + z_4 z_3^8 + z_3 z_4^{10}$     | Chain + Cycle      | 395  | 1920  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                               |
| (45,117,315,35,119)     | $z_0^{14} + z_0 z_1^5 + z_2^2 + z_2 z_3^9 + z_3 z_4^5$         | Chain + Chain      | 630  | 4161  | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                                   |
| (105,35,455,297,54)     | $z_0^9 + z_0 z_1^{24} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{12}$  | Chain + Cycle      | 945  | 8064  | $\mathbb{Z}^{16} \oplus (\mathbb{Z}_9)^2$                            |
| (35,1085,315,54,717)    | $z_0^{63} + z_0 z_1^2 + z_2^7 + z_2 z_3^{35} + z_3 z_4^3$      | Chain + Chain      | 2205 | 31744 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_{21}$                             |
| (167,74,35,59,55)       | $z_4 z_0^2 + z_0 z_1^3 + z_1 z_2^9 + z_2 z_3^6 + z_3 z_4^6$    | Cycle              | 389  | 1944  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{389}$                               |
| (35,945,55,374,517)     | $z_0^{55} + z_0 z_1^2 + z_2^{35} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain      | 1925 | 21504 | $\mathbb{Z}^{16} \oplus \mathbb{Z}_{35} \oplus \mathbb{Z}_7$         |
| (59,177,185,135,35)     | $z_0^{10} + z_0 z_1^3 + z_4 z_2^3 + z_2 z_3^3 + z_3 z_4^{13}$  | Chain + Cycle      | 590  | 2457  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{118} \oplus (\mathbb{Z}_{59})^2$    |
| (131,262,427,35,63)     | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{14} + z_3 z_4^{14}$  | Chain + Cycle      | 917  | 5880  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{131})^3$                           |
| (679,194,388,63,35)     | $z_0^2 + z_1^7 + z_1 z_2^3 + z_4 z_3^{21} + z_3 z_4^{37}$      | BP + Chain + Cycle | 1358 | 11655 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^3$                            |
| (35,770,335,67,1139)    | $z_0^{67} + z_0 z_1^3 + z_2^7 + z_2 z_3^{30} + z_3 z_4^2$      | Chain + Chain      | 2345 | 29160 | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_7)^3$                            |
| (35,119,126,72,279)     | $z_0^{18} + z_0 z_1^5 + z_2^5 + z_2 z_3^7 + z_3 z_4^2$         | Chain + Chain      | 630  | 2847  | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                                   |
| (87,1479,1015,35,430)   | $z_0^{35} + z_0 z_1^2 + z_2^3 + z_2 z_3^{58} + z_3 z_4^7$      | Chain + Chain      | 3045 | 37656 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2$                         |
| (465,92,339,35,179)     | $z_4 z_0^2 + z_0 z_1^7 + z_1 z_2^3 + z_2 z_3^{22} + z_3 z_4^6$ | Cycle              | 1109 | 5544  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1109}$                              |
| (99,858,363,35,1319)    | $z_0^{27} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{66} + z_3 z_4^2$  | Chain              | 2673 | 27080 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{27}$                             |
| (35,1715,495,99,1122)   | $z_0^{99} + z_0 z_1^2 + z_2^7 + z_2 z_3^{30} + z_3 z_4^3$      | Chain + Chain      | 3465 | 42600 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2 \oplus (\mathbb{Z}_3)^4$ |
| (142,284,135,115,35)    | $z_0^5 + z_0 z_1^2 + z_4 z_2^5 + z_2 z_3^5 + z_3 z_4^{17}$     | Chain + Cycle      | 710  | 2550  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{142})^2$                           |
| (299,598,1029,133,35)   | $z_0^7 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{56}$     | Chain + Cycle      | 2093 | 13440 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{299})^3$                           |
| (215,430,35,147,679)    | $z_0^7 + z_0 z_1^3 + z_2^{43} + z_2 z_3^{10} + z_3 z_4^2$      | Chain + Chain      | 1505 | 7080  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{43})^3$                            |
| (174,1972,3045,35,865)  | $z_0^{35} + z_0 z_1^3 + z_2^2 + z_2 z_3^{87} + z_3 z_4^7$      | Chain + Chain      | 6090 | 74195 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14}$                             |
| (1435,35,189,383,829)   | $z_0^2 + z_0 z_1^{41} + z_1 z_2^{15} + z_2 z_3^7 + z_3 z_4^3$  | Chain              | 2870 | 18369 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{10}$                                |
| (1000,3500,35,199,2267) | $z_0^7 + z_1^2 + z_1 z_2^{100} + z_2 z_3^{35} + z_3 z_4^3$     | BP + Chain         | 7000 | 85194 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_7$                                |
| (1185,237,1659,440,35)  | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{89}$  | Chain + Cycle      | 3555 | 22784 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                                |
| (35,3675,265,1424,1987) | $z_0^{211} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^5 + z_3 z_4^3$ | Chain              | 7385 | 64776 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{1477} \oplus \mathbb{Z}_7$       |
| (35,2905,735,1837,334)  | $z_0^{167} + z_0 z_1^2 + z_1 z_2^4 + z_4 z_3^3 + z_3 z_4^{12}$ | Chain + Cycle      | 5845 | 42048 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{167})^2$                        |
| (35,3115,1340,402,4489) | $z_0^{268} + z_0 z_1^3 + z_2^7 + z_2 z_3^{20} + z_3 z_4^2$     | Chain + Chain      | 9380 | 78402 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{14})^2 \oplus \mathbb{Z}_7$        |
| (737,2211,469,35,1708)  | $z_0^7 + z_0 z_1^2 + z_2^{11} + z_2 z_3^{134} + z_3 z_4^3$     | Chain + Chain      | 5159 | 23664 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{11})^2$                            |
| (35,2065,3115,2607,474) | $z_0^{237} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{12}$ | Chain + Cycle      | 8295 | 42624 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{237})^2$                           |
| (501,2672,35,4241,1069) | $z_0^{17} + z_0 z_1^3 + z_1 z_2^{167} + z_2 z_3^2 + z_3 z_4^4$ | Chain              | 8517 | 59584 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{2839}$                              |

| Weights                   | Polynomial  | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|---------------------------|---|--------------------|-------|--------|--|
| (35,8645,2475,594,5577)   | $z_0^{495} + z_0 z_1^2 + z_2^7 + z_2 z_3^{25} + z_3 z_4^3$        | Chain + Chain      | 17325 | 176576 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (35,3430,1379,639,4843)   | $z_0^{295} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{14} + z_3 z_4^2$    | Chain              | 10325 | 65784  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1475} \oplus (\mathbb{Z}_5)^2$  |
| (2373,1017,3051,644,35)   | $z_0^3 + z_1^7 + z_1 z_2^2 + z_4 z_3^{11} + z_3 z_4^{185}$        | BP + Chain + Cycle | 7119  | 32560  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^2$                           |
| (35,3115,670,1742,3819)   | $z_0^{268} + z_0 z_1^3 + z_2^{14} + z_2 z_3^5 + z_3 z_4^2$        | Chain + Chain      | 9380  | 44571  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{28} \oplus (\mathbb{Z}_7)^2$    |
| (711,3792,35,3013,4537)   | $z_0^{17} + z_0 z_1^3 + z_1 z_2^{237} + z_2 z_3^4 + z_3 z_4^2$    | Chain              | 12087 | 60400  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{4029}$                          |
| (6656,1664,4177,35,781)   | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{261} + z_3 z_4^{17}$        | BP + Cycle         | 13312 | 93177  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{3328}$                          |
| (3328,4992,4177,35,781)   | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{261} + z_3 z_4^{17}$    | Chain + Cycle      | 13312 | 66555  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{6656}$                          |
| (35,3115,938,1206,4087)   | $z_0^{268} + z_0 z_1^3 + z_2^{10} + z_2 z_3^7 + z_3 z_4^2$        | Chain + Chain      | 9380  | 42423  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{20} \oplus (\mathbb{Z}_5)^2$    |
| (4445,35,950,2477,5429)   | $z_0^3 + z_0 z_1^{254} + z_1 z_2^{14} + z_2 z_3^5 + z_3 z_4^2$    | Chain              | 13335 | 63248  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$        |
| (15295,35,4365,1049,9847) | $z_0^2 + z_0 z_1^{437} + z_1 z_2^7 + z_2 z_3^{25} + z_3 z_4^3$    | Chain              | 30590 | 311145 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{14}$                         |
| (4305,35,1288,1661,5627)  | $z_0^3 + z_0 z_1^{246} + z_1 z_2^{10} + z_2 z_3^7 + z_3 z_4^2$    | Chain              | 12915 | 58304  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{15} \oplus \mathbb{Z}_5$        |
| (36,666,39,443,185)       | $z_0^{38} + z_0 z_1^2 + z_1 z_2^{18} + z_2 z_3^3 + z_3 z_4^5$     | Chain              | 1368  | 17745  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{228}$                        |
| (81,36,41,91,157)         | $z_0^5 + z_0 z_1^9 + z_1 z_2^9 + z_2 z_3^4 + z_3 z_4^2$           | Chain              | 405   | 1984   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{45}$                            |
| (36,96,57,89,47)          | $z_0^9 + z_0 z_1^3 + z_1 z_2^4 + z_2 z_3^3 + z_3 z_4^5$           | Chain              | 324   | 1385   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{36}$                            |
| (119,119,102,36,339)      | $z_0^6 + z_1^6 + z_2^7 + z_2 z_3^{17} + z_3 z_4^2$                | BP + Chain         | 714   | 3125   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_7)^4$    |
| (161,138,36,465,167)      | $z_0^6 + z_1^7 + z_1 z_2^{23} + z_2 z_3^2 + z_3 z_4^3$            | BP + Chain         | 966   | 3995   | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                               |
| (609,203,174,36,197)      | $z_0^2 + z_1^6 + z_2^7 + z_2 z_3^{29} + z_3 z_4^6$                | BP + Chain         | 1218  | 5105   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{14}$                            |
| (627,209,209,174,36)      | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^7 + z_3 z_4^{30}$                | BP + Cycle         | 1254  | 5250   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                           |
| (36,3042,255,1955,833)    | $z_0^{170} + z_0 z_1^2 + z_2^{24} + z_2 z_3^3 + z_3 z_4^5$        | Chain + Chain      | 6120  | 53181  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{60}$                         |
| (36,3240,273,2081,887)    | $z_0^{181} + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^3 + z_3 z_4^5$    | Chain              | 6516  | 56290  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{2172} \oplus \mathbb{Z}_{12}$   |
| (225,50,80,37,59)         | $z_0^2 + z_1^9 + z_1 z_2^5 + z_2 z_3^{10} + z_3 z_4^7$            | BP + Chain         | 450   | 2737   | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                               |
| (563,349,37,99,79)        | $z_0^2 + z_4 z_1^6 + z_1 z_2^6 + z_2 z_3^7 + z_3 z_4^{30}$        | BP + Cycle         | 1126  | 9009   | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                               |
| (817,427,311,80,37)       | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{17} + z_3 z_4^{43}$ | Cycle              | 1671  | 11696  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1671}$                          |
| (800,160,521,83,37)       | $z_0^2 + z_1^{10} + z_4 z_2^3 + z_2 z_3^{13} + z_3 z_4^{41}$      | BP + Cycle         | 1600  | 14391  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{320}$                           |
| (320,640,521,83,37)       | $z_0^5 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{13} + z_3 z_4^{41}$     | Chain + Cycle      | 1600  | 9594   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1600} \oplus \mathbb{Z}_{320}$  |
| (1032,86,1505,37,437)     | $z_0^3 + z_0 z_1^{24} + z_1 z_2^2 + z_2 z_3^{43} + z_3 z_4^7$     | Chain              | 3096  | 37226  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$        |
| (525,150,95,37,769)       | $z_0^3 + z_0 z_1^7 + z_1 z_2^{15} + z_2 z_3^{40} + z_3 z_4^2$     | Chain              | 1575  | 12896  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{45}$                            |
| (1033,535,98,401,37)      | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^{16} + z_2 z_3^5 + z_3 z_4^{46}$ | Cycle              | 2103  | 14720  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{2103}$                          |
| (1862,98,37,1229,499)     | $z_0^2 + z_0 z_1^{19} + z_1 z_2^{98} + z_2 z_3^3 + z_3 z_4^5$     | Chain              | 3724  | 48375  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{196}$                        |
| (1505,105,630,37,2239)    | $z_0^3 + z_1^{43} + z_1 z_2^7 + z_2 z_3^{105} + z_3 z_4^2$        | BP + Chain         | 4515  | 63728  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_3)^7$                        |
| (3053,142,852,37,2023)    | $z_0^2 + z_1^{43} + z_1 z_2^7 + z_2 z_3^{142} + z_3 z_4^3$        | BP + Chain         | 6106  | 85743  | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_2)^7$                        |
| (319,779,272,189,37)      | $z_0^5 + z_4 z_1^2 + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^{38}$        | BP + Cycle         | 1595  | 6384   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                               |
| (455,1365,210,37,2029)    | $z_0^9 + z_1^3 + z_1 z_2^{13} + z_2 z_3^{105} + z_3 z_4^2$        | BP + Chain         | 4095  | 33056  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{117} \oplus \mathbb{Z}_{13}$    |
| (37,1961,999,749,214)     | $z_0^{107} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^{15} + z_3 z_4^5$    | Chain + Cycle      | 3959  | 24000  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{107})^3$                       |
| (1107,1107,821,250,37)    | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{10} + z_3 z_4^{83}$         | BP + Cycle         | 3321  | 13280  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{3321} \oplus \mathbb{Z}_{1107}$ |

| Weights                   | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|---------------------------|--|---------------|-------|--------|---|
| (1365,315,3080,37,4759)   | $z_0^7 + z_0 z_1^{26} + z_1 z_2^3 + z_2 z_3^{175} + z_3 z_4^2$ | Chain         | 9555  | 95920  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$      |
| (525,2730,3815,37,7069)   | $z_0^{27} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^{280} + z_3 z_4^2$ | Chain         | 14175 | 113696 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{81}$                             |
| (568,4260,1207,37,3017)   | $z_0^{16} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{213} + z_3 z_4^3$ | Chain         | 9088  | 54639  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{64}$                             |
| (735,3780,9065,37,13579)  | $z_0^{37} + z_0 z_1^7 + z_2^3 + z_2 z_3^{490} + z_3 z_4^2$     | Chain + Chain | 27195 | 328256 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_3$                             |
| (4423,6221,1762,37,827)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{311} + z_3 z_4^{16}$ | BP + Cycle    | 13269 | 79616  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                                |
| (994,5112,18389,37,12247) | $z_0^{37} + z_0 z_1^7 + z_2^2 + z_2 z_3^{497} + z_3 z_4^3$     | Chain + Chain | 36778 | 443547 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                             |
| (14099,7589,37,1043,5431) | $z_0^2 + z_4 z_1^3 + z_1 z_2^{557} + z_2 z_3^{27} + z_3 z_4^5$ | BP + Cycle    | 28198 | 225585 | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                                |
| (38,836,45,333,459)       | $z_0^{45} + z_0 z_1^2 + z_2^{38} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain | 1710  | 19182  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{38})^2$                      |
| (1292,38,67,839,349)      | $z_0^2 + z_0 z_1^{34} + z_1 z_2^{38} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 2584  | 33525  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{76}$                          |
| (147,1323,735,551,38)     | $z_0^{19} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^{59}$  | Chain + Cycle | 2793  | 16520  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{19})^3$                         |
| (200,38,1981,673,1109)    | $z_0^{20} + z_0 z_1^{100} + z_1 z_2^2 + z_2 z_3^3 + z_3 z_4^3$ | Chain         | 4000  | 26019  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{40}$                             |
| (3159,1053,1755,314,38)   | $z_0^2 + z_0 z_1^3 + z_1 z_2^3 + z_4 z_3^{20} + z_3 z_4^{158}$ | Chain + Cycle | 6318  | 41080  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$            |
| (5016,38,7505,397,2093)   | $z_0^3 + z_0 z_1^{264} + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^7$ | Chain         | 15048 | 181370 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$         |
| (3271,3733,38,425,2347)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^{160} + z_2 z_3^{23} + z_3 z_4^4$ | BP + Cycle    | 9813  | 58880  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                                |
| (38,6460,9709,511,2701)   | $z_0^{511} + z_0 z_1^3 + z_2^2 + z_2 z_3^{19} + z_3 z_4^7$     | Chain + Chain | 19418 | 234267 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^2$  |
| (72,54,39,83,41)          | $z_0^4 + z_0 z_1^4 + z_1 z_2^6 + z_2 z_3^3 + z_3 z_4^5$        | Chain         | 288   | 1235   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{24}$                             |
| (41,779,39,312,429)       | $z_0^{39} + z_0 z_1^2 + z_2^{41} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain | 1599  | 18000  | $\mathbb{Z}^{20} \oplus (\mathbb{Z}_{41})^2$                      |
| (70,280,45,39,197)        | $z_0^9 + z_0 z_1^2 + z_2^{14} + z_2 z_3^{15} + z_3 z_4^3$      | Chain + Chain | 630   | 4330   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{42} \oplus \mathbb{Z}_{14}$      |
| (45,125,585,39,377)       | $z_0^{26} + z_0 z_1^9 + z_2^2 + z_2 z_3^{15} + z_3 z_4^3$      | Chain + Chain | 1170  | 12749  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                             |
| (210,140,45,39,197)       | $z_0^3 + z_0 z_1^3 + z_2^{14} + z_2 z_3^{15} + z_3 z_4^3$      | Chain + Chain | 630   | 3031   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{14}$                             |
| (378,54,39,239,47)        | $z_0^2 + z_0 z_1^7 + z_1 z_2^{18} + z_2 z_3^3 + z_3 z_4^{11}$  | Chain         | 756   | 7799   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{36}$                          |
| (39,195,48,257,281)       | $z_0^{21} + z_0 z_1^4 + z_1 z_2^{13} + z_2 z_3^3 + z_3 z_4^2$  | Chain         | 819   | 4304   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{273} \oplus (\mathbb{Z}_{13})^3$ |
| (39,195,338,67,571)       | $z_0^{31} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{13} + z_3 z_4^2$  | Chain         | 1209  | 7656   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{93} \oplus (\mathbb{Z}_3)^5$     |
| (39,377,130,80,545)       | $z_0^{30} + z_0 z_1^3 + z_2^9 + z_2 z_3^{13} + z_3 z_4^2$      | Chain + Chain | 1170  | 7625   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                             |
| (80,480,299,39,143)       | $z_0^{13} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{19} + z_3 z_4^7$  | Chain + Cycle | 1040  | 5586   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{80})^2$                         |
| (92,1058,723,297,39)      | $z_0^{24} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{49}$  | Chain + Cycle | 2208  | 18375  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{368}$                            |
| (101,707,423,39,246)      | $z_0^{15} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{28} + z_3 z_4^6$  | Chain + Cycle | 1515  | 8064   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{505} \oplus \mathbb{Z}_{101}$    |
| (105,27,306,71,437)       | $z_0^9 + z_1^{35} + z_1 z_2^3 + z_2 z_3^9 + z_3 z_4^2$         | BP + Chain    | 945   | 8128   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                             |
| (200,150,825,39,587)      | $z_0^9 + z_1^{12} + z_1 z_2^2 + z_2 z_3^{25} + z_3 z_4^3$      | BP + Chain    | 1800  | 9704   | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$            |
| (350,875,150,39,687)      | $z_0^6 + z_0 z_1^2 + z_2^{14} + z_2 z_3^{50} + z_3 z_4^3$      | Chain + Chain | 2100  | 9891   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{28}$                             |
| (39,5031,3367,259,1406)   | $z_0^{259} + z_0 z_1^2 + z_2^3 + z_2 z_3^{26} + z_3 z_4^7$     | Chain + Chain | 10101 | 122200 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{21})^2$                      |
| (691,1583,39,854,289)     | $z_0^5 + z_4 z_1^2 + z_1 z_2^{48} + z_2 z_3^4 + z_3 z_4^9$     | BP + Cycle    | 3455  | 13824  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                                |
| (350,1900,6825,39,4537)   | $z_0^{39} + z_0 z_1^7 + z_2^2 + z_2 z_3^{175} + z_3 z_4^3$     | Chain + Chain | 13650 | 164735 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6$                             |
| (491,1964,1095,831,39)    | $z_0^9 + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{92}$     | Chain + Cycle | 4419  | 14720  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1473} \oplus \mathbb{Z}_{491}$   |
| (445,89,267,50,40)        | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{17} + z_3 z_4^{21}$  | Chain + Cycle | 890   | 7497   | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_2)^5$                         |

| Weights                 | Polynomial   | Type          | $d$   | $\mu$ | $H_3(M, \mathbb{Z})$  |
|-------------------------|--|---------------|-------|-------|---|
| (40,1500,95,589,817)    | $z_0^{76} + z_0 z_1^2 + z_2^{32} + z_2 z_3^5 + z_3 z_4^3$          | Chain + Chain | 3040  | 27027 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{16}$                        |
| (391,533,40,103,107)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^{16} + z_2 z_3^{11} + z_3 z_4^{10}$   | BP + Cycle    | 1173  | 7040  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                              |
| (399,665,114,40,1177)   | $z_0^6 + z_0 z_1^3 + z_2^{21} + z_2 z_3^{57} + z_3 z_4^2$          | Chain + Chain | 2394  | 15821 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{126} \oplus \mathbb{Z}_3$      |
| (40,150,545,139,367)    | $z_0^{31} + z_0 z_1^8 + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$         | Chain         | 1240  | 5238  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{62} \oplus \mathbb{Z}_2$       |
| (847,231,2849,40,1963)  | $z_0^7 + z_0 z_1^{22} + z_1 z_2^2 + z_2 z_3^{77} + z_3 z_4^3$      | Chain         | 5929  | 47592 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_7$                           |
| (40,3400,855,399,2147)  | $z_0^{171} + z_0 z_1^2 + z_2^8 + z_2 z_3^{15} + z_3 z_4^3$         | Chain + Chain | 6840  | 42484 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{24} \oplus \mathbb{Z}_8$       |
| (40,4260,1075,499,2687) | $z_0^{214} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{15} + z_3 z_4^3$     | Chain         | 8560  | 52857 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{856}$                          |
| (6160,40,1535,719,3867) | $z_0^2 + z_0 z_1^{154} + z_1 z_2^8 + z_2 z_3^{15} + z_3 z_4^3$     | Chain         | 12320 | 76077 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{16}$                           |
| (1271,41,61,827,343)    | $z_0^2 + z_0 z_1^{31} + z_1 z_2^{41} + z_2 z_3^3 + z_3 z_4^5$      | Chain         | 2542  | 32985 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{82}$                        |
| (63,840,369,41,1271)    | $z_0^{41} + z_0 z_1^3 + z_2^7 + z_2 z_3^{54} + z_3 z_4^2$          | Chain + Chain | 2583  | 31872 | $\mathbb{Z}^{18} \oplus \mathbb{Z}_7$                           |
| (123,41,287,90,75)      | $z_0^5 + z_0 z_1^{12} + z_1 z_2^2 + z_4 z_3^6 + z_3 z_4^7$         | Chain + Cycle | 615   | 2688  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                          |
| (91,364,117,41,571)     | $z_0^{13} + z_0 z_1^3 + z_1 z_2^7 + z_2 z_3^{26} + z_3 z_4^2$      | Chain         | 1183  | 7344  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{91} \oplus (\mathbb{Z}_7)^2$   |
| (163,387,107,118,41)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^6 + z_3 z_4^{17}$         | BP + Cycle    | 815   | 3264  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                              |
| (117,351,624,41,1091)   | $z_0^{19} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{39} + z_3 z_4^2$      | Chain         | 2223  | 13584 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{57} \oplus (\mathbb{Z}_3)^5$   |
| (675,675,496,139,41)    | $z_0^3 + z_1^3 + z_4 z_2^4 + z_2 z_3^{11} + z_3 z_4^{46}$          | BP + Cycle    | 2025  | 8096  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2025} \oplus \mathbb{Z}_{675}$ |
| (351,351,156,41,857)    | $z_0^5 + z_0 z_1^4 + z_1 z_2^9 + z_2 z_3^{39} + z_3 z_4^2$         | Chain         | 1755  | 7184  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{45} \oplus (\mathbb{Z}_9)^3$   |
| (41,943,1435,1209,186)  | $z_0^{93} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{14}$      | Chain + Cycle | 3813  | 19488 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{93})^2$                       |
| (2417,317,41,2060,1387) | $z_4 z_0^2 + z_0 z_1^{12} + z_1 z_2^{144} + z_2 z_3^3 + z_3 z_4^3$ | Cycle         | 6221  | 31104 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{6221}$                         |
| (2528,3792,395,41,3357) | $z_0^4 + z_0 z_1^2 + z_1 z_2^{16} + z_2 z_3^{237} + z_3 z_4^3$     | Chain         | 10112 | 60795 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{64}$                           |
| (4423,4981,518,41,3307) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{16} + z_2 z_3^{311} + z_3 z_4^4$     | BP + Cycle    | 13269 | 79616 | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                              |
| (182,455,42,75,339)     | $z_0^6 + z_0 z_1^2 + z_2^{26} + z_2 z_3^{14} + z_3 z_4^3$          | Chain + Chain | 1092  | 5271  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{52}$                           |
| (429,143,143,102,42)    | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^8 + z_3 z_4^{18}$                 | BP + Cycle    | 858   | 3600  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                          |
| (1113,42,157,1591,437)  | $z_0^3 + z_0 z_1^{53} + z_1 z_2^{21} + z_2 z_3^2 + z_3 z_4^4$      | Chain         | 3339  | 23216 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{63}$                           |
| (308,42,1365,201,857)   | $z_0^9 + z_1^{66} + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$             | BP + Chain    | 2772  | 15320 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$          |
| (675,270,991,47,43)     | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{22} + z_3 z_4^{46}$      | Chain + Cycle | 2025  | 26312 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{405}$                       |
| (405,540,991,47,43)     | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{22} + z_3 z_4^{46}$      | Chain + Cycle | 2025  | 22264 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{675}$                       |
| (270,90,71,67,43)       | $z_0^2 + z_1^6 + z_4 z_2^7 + z_2 z_3^7 + z_3 z_4^{11}$             | BP + Cycle    | 540   | 2695  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{180}$                          |
| (180,180,71,67,43)      | $z_0^3 + z_1^3 + z_4 z_2^7 + z_2 z_3^7 + z_3 z_4^{11}$             | BP + Cycle    | 540   | 2156  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{540} \oplus \mathbb{Z}_{180}$  |
| (615,205,82,43,901)     | $z_0^3 + z_0 z_1^6 + z_1 z_2^{20} + z_2 z_3^{41} + z_3 z_4^2$      | Chain         | 1845  | 15104 | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{15} \oplus \mathbb{Z}_5$    |
| (2075,83,581,43,1369)   | $z_0^2 + z_0 z_1^{25} + z_1 z_2^7 + z_2 z_3^{83} + z_3 z_4^3$      | Chain         | 4150  | 58401 | $\mathbb{Z}^{20} \oplus \mathbb{Z}_2$                           |
| (123,738,1763,43,2623)  | $z_0^{43} + z_0 z_1^7 + z_2^3 + z_2 z_3^{82} + z_3 z_4^2$          | Chain + Chain | 5289  | 64232 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_3)^7$                       |
| (166,996,3569,43,2365)  | $z_0^{43} + z_0 z_1^7 + z_2^2 + z_2 z_3^{83} + z_3 z_4^3$          | Chain + Chain | 7138  | 86247 | $\mathbb{Z}^{14} \oplus (\mathbb{Z}_2)^7$                       |
| (2048,512,1301,43,193)  | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{65} + z_3 z_4^{21}$          | BP + Cycle    | 4096  | 28665 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1024}$                         |
| (1024,1536,1301,43,193) | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{65} + z_3 z_4^{21}$      | Chain + Cycle | 4096  | 20475 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{2048}$                         |
| (1687,1922,43,193,1217) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{73} + z_2 z_3^{26} + z_3 z_4^4$      | BP + Cycle    | 5061  | 30368 | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                              |

| Weights                   | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|---------------------------|--|--------------------|-------|--------|--|
| (1125,250,43,2791,1417)   | $z_0^5 + z_0 z_1^{18} + z_1 z_2^{125} + z_2 z_3^2 + z_3 z_4^2$   | Chain              | 5625  | 33664  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{625} \oplus \mathbb{Z}_{125}$ |
| (1763,43,2623,492,369)    | $z_0^3 + z_0 z_1^{82} + z_1 z_2^2 + z_4 z_3^{10} + z_3 z_4^{13}$ | Chain + Cycle      | 5289  | 32240  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                         |
| (43,6149,3321,451,2378)   | $z_0^{287} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{20} + z_3 z_4^5$   | Chain + Cycle      | 12341 | 86400  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{301} \oplus \mathbb{Z}_{43}$  |
| (3569,43,2365,664,498)    | $z_0^2 + z_0 z_1^{83} + z_1 z_2^3 + z_4 z_3^{10} + z_3 z_4^{13}$ | Chain + Cycle      | 7138  | 43290  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^4$                         |
| (43,6149,3936,1681,533)   | $z_0^{287} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{20}$   | Chain + Cycle      | 12341 | 86400  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{301} \oplus \mathbb{Z}_{43}$  |
| (3652,12782,581,43,8507)  | $z_0^7 + z_1^2 + z_1 z_2^{22} + z_2 z_3^{581} + z_3 z_4^3$       | BP + Chain         | 25564 | 307026 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_7$                          |
| (11044,16566,753,43,4727) | $z_0^3 + z_1^2 + z_1 z_2^{22} + z_2 z_3^{753} + z_3 z_4^7$       | BP + Chain         | 33132 | 397670 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_3$                          |
| (49,245,147,55,44)        | $z_0^{11} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^9 + z_3 z_4^{11}$    | Chain + Cycle      | 539   | 3168   | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{11})^3$                      |
| (44,242,93,87,63)         | $z_0^{12} + z_0 z_1^2 + z_4 z_2^5 + z_2 z_3^5 + z_3 z_4^7$       | Chain + Cycle      | 528   | 2275   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{88}$                          |
| (63,147,462,44,671)       | $z_0^{22} + z_0 z_1^9 + z_2^3 + z_2 z_3^{21} + z_3 z_4^2$        | Chain + Chain      | 1386  | 11505  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                          |
| (44,418,77,73,269)        | $z_0^{20} + z_0 z_1^2 + z_1 z_2^6 + z_2 z_3^{11} + z_3 z_4^3$    | Chain              | 880   | 5499   | $\mathbb{Z}^8 \oplus \mathbb{Z}_{40}$                          |
| (1701,567,945,146,44)     | $z_0^2 + z_0 z_1^3 + z_1 z_2^3 + z_4 z_3^{23} + z_3 z_4^{74}$    | Chain + Cycle      | 3402  | 22126  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$         |
| (1353,451,44,365,1847)    | $z_0^3 + z_0 z_1^6 + z_1 z_2^{82} + z_2 z_3^{11} + z_3 z_4^2$    | Chain              | 4059  | 17696  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{123} \oplus \mathbb{Z}_{41}$  |
| (44,2442,3685,557,3085)   | $z_0^{223} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^3$   | Chain              | 9812  | 40362  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{446} \oplus \mathbb{Z}_2$     |
| (45,125,390,52,559)       | $z_0^{26} + z_0 z_1^9 + z_2^3 + z_2 z_3^{15} + z_3 z_4^2$        | Chain + Chain      | 1170  | 9823   | $\mathbb{Z}^{10} \oplus \mathbb{Z}_2$                          |
| (285,45,54,89,383)        | $z_0^3 + z_1^{19} + z_1 z_2^{15} + z_2 z_3^9 + z_3 z_4^2$        | BP + Chain         | 855   | 5664   | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                         |
| (45,117,126,56,287)       | $z_0^{14} + z_0 z_1^5 + z_2^5 + z_2 z_3^9 + z_3 z_4^2$           | Chain + Chain      | 630   | 2793   | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                             |
| (92,368,261,63,45)        | $z_0^9 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{17}$       | Chain + Cycle      | 828   | 4590   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{92})^2$                      |
| (116,696,87,45,449)       | $z_0^{12} + z_1^2 + z_1 z_2^8 + z_2 z_3^{29} + z_3 z_4^3$        | BP + Chain         | 1392  | 10373  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_8$                          |
| (45,420,87,203,551)       | $z_0^{29} + z_0 z_1^3 + z_2^{15} + z_2 z_3^6 + z_3 z_4^2$        | Chain + Chain      | 1305  | 6136   | $\mathbb{Z}^8 \oplus \mathbb{Z}_5$                             |
| (232,580,87,45,449)       | $z_0^6 + z_0 z_1^2 + z_2^{16} + z_2 z_3^{29} + z_3 z_4^3$        | Chain + Chain      | 1392  | 6601   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{24}$                          |
| (95,1235,45,504,687)      | $z_0^{27} + z_0 z_1^2 + z_2^{57} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain      | 2565  | 17528  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{171} \oplus \mathbb{Z}_{19}$  |
| (45,576,783,119,1403)     | $z_0^{65} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^{18} + z_3 z_4^2$    | Chain              | 2925  | 18264  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{65}$                          |
| (215,129,602,945,45)      | $z_0^9 + z_1^{15} + z_1 z_2^3 + z_4 z_3^2 + z_3 z_4^{22}$        | BP + Chain + Cycle | 1935  | 10912  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                      |
| (393,131,917,480,45)      | $z_0^5 + z_0 z_1^{12} + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^{33}$    | Chain + Cycle      | 1965  | 8448   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                         |
| (189,45,1308,887,1541)    | $z_0^{21} + z_0 z_1^{84} + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^2$    | Chain              | 3969  | 19424  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{63} \oplus (\mathbb{Z}_3)^3$  |
| (45,855,290,232,1189)     | $z_0^{58} + z_0 z_1^3 + z_2^9 + z_2 z_3^{10} + z_3 z_4^2$        | Chain + Chain      | 2610  | 11466  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{18})^2 \oplus \mathbb{Z}_9$  |
| (795,45,234,239,1073)     | $z_0^3 + z_1^{53} + z_1 z_2^{10} + z_2 z_3^9 + z_3 z_4^2$        | BP + Chain         | 2385  | 10496  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                         |
| (380,3230,45,1359,1827)   | $z_0^{18} + z_0 z_1^2 + z_2^{152} + z_2 z_3^5 + z_3 z_4^3$       | Chain + Chain      | 6840  | 31749  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{76}$                          |
| (1539,2052,45,425,3635)   | $z_0^5 + z_0 z_1^3 + z_2^{171} + z_2 z_3^{18} + z_3 z_4^2$       | Chain + Chain      | 7695  | 35728  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{57}$                          |
| (45,3570,479,2569,4093)   | $z_0^{239} + z_0 z_1^3 + z_1 z_2^{15} + z_2 z_3^4 + z_3 z_4^2$   | Chain              | 10755 | 53296  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3585}$                        |
| (45,790,1273,2941,2107)   | $z_0^{159} + z_0 z_1^9 + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$      | Chain              | 7155  | 20192  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{795}$                         |
| (2655,45,6180,827,8879)   | $z_0^7 + z_0 z_1^{354} + z_1 z_2^3 + z_2 z_3^{15} + z_3 z_4^2$   | Chain              | 18585 | 116472 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus (\mathbb{Z}_3)^5$  |
| (45,2718,3639,833,6401)   | $z_0^{303} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^{12} + z_3 z_4^2$   | Chain              | 13635 | 57872  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{909}$                         |
| (45,3375,7890,1052,11309) | $z_0^{526} + z_0 z_1^7 + z_2^3 + z_2 z_3^{15} + z_3 z_4^2$       | Chain + Chain      | 23670 | 148379 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^6$     |

| Weights                   | Polynomial  | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|---------------------------|---|---------------|-------|--------|--|
| (89,979,267,667,46)       | $z_0^{23} + z_0 z_1^2 + z_1 z_2^4 + z_4 z_3^3 + z_3 z_4^{30}$     | Chain + Cycle | 2047  | 14400  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_{23})^2$                     |
| (1472,46,2185,97,617)     | $z_0^3 + z_0 z_1^{64} + z_1 z_2^2 + z_2 z_3^{23} + z_3 z_4^7$     | Chain         | 4416  | 53186  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$        |
| (3979,46,517,2855,4541)   | $z_0^3 + z_0 z_1^{173} + z_1 z_2^{23} + z_2 z_3^4 + z_3 z_4^2$    | Chain         | 11937 | 59168  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{69}$                            |
| (623,6853,2047,46,4761)   | $z_0^{23} + z_0 z_1^2 + z_2^7 + z_2 z_3^{267} + z_3 z_4^3$        | Chain + Chain | 14329 | 89856  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                        |
| (807,8877,6187,46,2645)   | $z_0^{23} + z_0 z_1^2 + z_2^3 + z_2 z_3^{269} + z_3 z_4^7$        | Chain + Chain | 18561 | 116256 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                        |
| (49,1127,329,47,752)      | $z_0^{47} + z_0 z_1^2 + z_2^7 + z_2 z_3^{42} + z_3 z_4^3$         | Chain + Chain | 2303  | 28512  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_7)^2$                        |
| (893,47,376,49,1315)      | $z_0^3 + z_0 z_1^{38} + z_1 z_2^7 + z_2 z_3^{47} + z_3 z_4^2$     | Chain         | 2679  | 38192  | $\mathbb{Z}^{26} \oplus \mathbb{Z}_3$                            |
| (423,47,611,135,54)       | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^9 + z_3 z_4^{21}$     | Chain + Cycle | 1269  | 10584  | $\mathbb{Z}^{10} \oplus (\mathbb{Z}_3)^5$                        |
| (1012,66,1485,47,427)     | $z_0^3 + z_1^{46} + z_1 z_2^2 + z_2 z_3^{33} + z_3 z_4^7$         | BP + Chain    | 3036  | 36526  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_3$                            |
| (1760,440,1123,47,151)    | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{51} + z_3 z_4^{23}$         | BP + Cycle    | 3520  | 24633  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{880}$                           |
| (880,1320,1123,47,151)    | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{51} + z_3 z_4^{23}$     | Chain + Cycle | 3520  | 17595  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1760}$                          |
| (787,1157,172,199,47)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^7 + z_2 z_3^{11} + z_3 z_4^{46}$     | BP + Cycle    | 2361  | 14168  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                               |
| (47,1739,990,195,555)     | $z_0^{75} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{13} + z_3 z_4^6$     | Chain + Cycle | 3525  | 17784  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{235} \oplus \mathbb{Z}_{47}$    |
| (47,1739,1095,405,240)    | $z_0^{75} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^6 + z_3 z_4^{13}$     | Chain + Cycle | 3525  | 17784  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{235} \oplus \mathbb{Z}_{47}$    |
| (2275,455,273,47,1501)    | $z_0^2 + z_0 z_1^5 + z_1 z_2^{15} + z_2 z_3^{91} + z_3 z_4^3$     | Chain         | 4550  | 27441  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{10}$                            |
| (910,1820,273,47,1501)    | $z_0^5 + z_0 z_1^2 + z_1 z_2^{10} + z_2 z_3^{91} + z_3 z_4^3$     | Chain         | 4550  | 18294  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{50} \oplus \mathbb{Z}_{10}$     |
| (4095,315,1710,47,6119)   | $z_0^3 + z_0 z_1^{26} + z_1 z_2^7 + z_2 z_3^{225} + z_3 z_4^2$    | Chain         | 12285 | 123320 | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (2115,47,5264,2475,675)   | $z_0^5 + z_0 z_1^{180} + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^{12}$    | Chain + Cycle | 10575 | 43392  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                           |
| (47,3149,1305,720,1125)   | $z_0^{135} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^7 + z_3 z_4^5$       | Chain + Cycle | 6345  | 19040  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{141} \oplus \mathbb{Z}_{47}$    |
| (732,5490,3111,47,2333)   | $z_0^{16} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{183} + z_3 z_4^5$    | Chain         | 11712 | 46895  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{32}$                            |
| (47,3149,1395,990,765)    | $z_0^{135} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^5 + z_3 z_4^7$       | Chain + Cycle | 6345  | 19040  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{141} \oplus \mathbb{Z}_{47}$    |
| (2777,9287,47,6464,865)   | $z_0^7 + z_4 z_1^2 + z_1 z_2^{216} + z_2 z_3^3 + z_3 z_4^{15}$    | BP + Cycle    | 19439 | 116640 | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                               |
| (2803,6571,3722,47,873)   | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{219} + z_3 z_4^{16}$    | BP + Cycle    | 14015 | 56064  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                               |
| (8601,47,3431,4026,1098)  | $z_0^2 + z_0 z_1^{183} + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{12}$    | Chain + Cycle | 17202 | 70320  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                           |
| (8250,1100,11825,47,3529) | $z_0^3 + z_0 z_1^{15} + z_1 z_2^2 + z_2 z_3^{275} + z_3 z_4^7$    | Chain         | 24750 | 148547 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                               |
| (48,1080,69,713,299)      | $z_0^{46} + z_0 z_1^2 + z_2^{32} + z_2 z_3^3 + z_3 z_4^5$         | Chain + Chain | 2208  | 19505  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_{16}$                         |
| (375,125,125,78,48)       | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^9 + z_3 z_4^{14}$                | BP + Cycle    | 750   | 3150   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                           |
| (101,707,489,171,48)      | $z_0^{15} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^6 + z_3 z_4^{28}$     | Chain + Cycle | 1515  | 8064   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{505} \oplus \mathbb{Z}_{101}$   |
| (563,359,59,97,49)        | $z_0^2 + z_4 z_1^3 + z_1 z_2^{13} + z_2 z_3^{11} + z_3 z_4^{21}$  | BP + Cycle    | 1126  | 9009   | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                               |
| (151,353,134,69,49)       | $z_0^5 + z_4 z_1^2 + z_1 z_2^3 + z_2 z_3^9 + z_3 z_4^{14}$        | BP + Cycle    | 755   | 3024   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                               |
| (82,1312,2009,49,567)     | $z_0^{49} + z_0 z_1^3 + z_2^2 + z_2 z_3^{41} + z_3 z_4^7$         | Chain + Chain | 4018  | 48807  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^2$ |
| (755,621,86,49,487)       | $z_4 z_0^2 + z_0 z_1^2 + z_1 z_2^{16} + z_2 z_3^{39} + z_3 z_4^4$ | Cycle         | 1997  | 9984   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1997}$                          |
| (49,1225,532,114,1805)    | $z_0^{76} + z_0 z_1^3 + z_2^7 + z_2 z_3^{28} + z_3 z_4^2$         | Chain + Chain | 3724  | 30906  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{14})^2 \oplus \mathbb{Z}_7$    |
| (152,190,741,49,541)      | $z_0^{11} + z_0 z_1^8 + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^3$     | Chain         | 1672  | 6786   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{22} \oplus \mathbb{Z}_2$        |
| (335,1005,670,287,49)     | $z_0^7 + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{42}$        | Chain + Cycle | 2345  | 6720   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_7)^2$                           |

| Weights                  | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|--------------------------|--|--------------------|-------|--------|--|
| (705,1410,329,49,2443)   | $z_0^7 + z_0 z_1^3 + z_2^{15} + z_2 z_3^{94} + z_3 z_4^2$          | Chain + Chain      | 4935  | 21360  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{15})^3$                        |
| (380,2470,665,49,1757)   | $z_0^{14} + z_0 z_1^2 + z_2^8 + z_2 z_3^{95} + z_3 z_4^3$          | Chain + Chain      | 5320  | 22905  | $\mathbb{Z}^8 \oplus \mathbb{Z}_4$                               |
| (49,3087,1330,380,4465)  | $z_0^{190} + z_0 z_1^3 + z_2^7 + z_2 z_3^{21} + z_3 z_4^2$         | Chain + Chain      | 9310  | 58293  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{14})^3$                        |
| (2607,474,4123,1043,49)  | $z_1 z_0^3 + z_0 z_1^{12} + z_4 z_2^2 + z_2 z_3^4 + z_3 z_4^{148}$ | Cycle + Cycle      | 8295  | 42624  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1185} \oplus \mathbb{Z}_{237}$  |
| (4029,474,49,6019,1517)  | $z_0^3 + z_0 z_1^{17} + z_1 z_2^{237} + z_2 z_3^2 + z_3 z_4^4$     | Chain              | 12087 | 84560  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{711}$                           |
| (1651,4103,519,1934,49)  | $z_0^5 + z_4 z_1^2 + z_1 z_2^8 + z_2 z_3^4 + z_3 z_4^{129}$        | BP + Cycle         | 8255  | 33024  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                               |
| (6656,1664,4421,523,49)  | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{17} + z_3 z_4^{261}$         | BP + Cycle         | 13312 | 93177  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{3328}$                          |
| (3328,4992,4421,523,49)  | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{17} + z_3 z_4^{261}$     | Chain + Cycle      | 13312 | 66555  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{6656}$                          |
| (6345,2538,611,49,9493)  | $z_0^3 + z_0 z_1^5 + z_1 z_2^{27} + z_2 z_3^{376} + z_3 z_4^2$     | Chain              | 19035 | 152672 | $\mathbb{Z}^8 \oplus \mathbb{Z}_{81}$                            |
| (4697,1342,2684,623,49)  | $z_0^2 + z_1^7 + z_1 z_2^3 + z_4 z_3^{15} + z_3 z_4^{179}$         | BP + Chain + Cycle | 9394  | 40275  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                           |
| (5695,670,49,4259,6413)  | $z_0^3 + z_0 z_1^{17} + z_1 z_2^{335} + z_2 z_3^4 + z_3 z_4^2$     | Chain              | 17085 | 85376  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1005}$                          |
| (6112,764,2865,49,2435)  | $z_0^2 + z_0 z_1^8 + z_1 z_2^4 + z_2 z_3^{191} + z_3 z_4^5$        | Chain              | 12224 | 48945  | $\mathbb{Z}^4 \oplus \mathbb{Z}_8$                               |
| (14099,9383,3763,905,49) | $z_0^2 + z_4 z_1^3 + z_1 z_2^5 + z_2 z_3^{27} + z_3 z_4^{557}$     | BP + Cycle         | 28198 | 225585 | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                               |
| (225,375,50,52,649)      | $z_0^6 + z_0 z_1^3 + z_2^{27} + z_2 z_3^{25} + z_3 z_4^2$          | Chain + Chain      | 1350  | 9113   | $\mathbb{Z}^{12} \oplus \mathbb{Z}_{18}$                         |
| (50,1050,55,419,577)     | $z_0^{43} + z_0 z_1^2 + z_1 z_2^{20} + z_2 z_3^5 + z_3 z_4^3$      | Chain              | 2150  | 18876  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_{430} \oplus \mathbb{Z}_{10}$ |
| (437,50,329,59,163)      | $z_4 z_0^2 + z_0 z_1^{12} + z_1 z_2^3 + z_2 z_3^{12} + z_3 z_4^6$  | Cycle              | 1037  | 5184   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1037}$                          |
| (475,50,93,1141,617)     | $z_0^5 + z_0 z_1^{38} + z_1 z_2^{25} + z_2 z_3^2 + z_3 z_4^2$      | Chain              | 2375  | 14064  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{125} \oplus \mathbb{Z}_{25}$    |
| (50,1600,2425,97,679)    | $z_0^{97} + z_0 z_1^3 + z_2^2 + z_2 z_3^{25} + z_3 z_4^7$          | Chain + Chain      | 4850  | 58695  | $\mathbb{Z}^{18} \oplus (\mathbb{Z}_2)^3$                        |
| (1377,459,765,104,50)    | $z_0^2 + z_0 z_1^3 + z_1 z_2^3 + z_4 z_3^{26} + z_3 z_4^{53}$      | Chain + Cycle      | 2754  | 17914  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$           |
| (2257,631,50,1577,267)   | $z_4 z_0^2 + z_0 z_1^4 + z_1 z_2^{83} + z_2 z_3^3 + z_3 z_4^{12}$  | Cycle              | 4781  | 23904  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{4781}$                          |
| (5350,50,355,2069,2877)  | $z_0^2 + z_0 z_1^{107} + z_1 z_2^{30} + z_2 z_3^5 + z_3 z_4^3$     | Chain              | 10700 | 70407  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{20}$                            |
| (415,50,903,1831,1367)   | $z_0^{11} + z_0 z_1^{83} + z_1 z_2^5 + z_2 z_3^2 + z_3 z_4^2$      | Chain              | 4565  | 12792  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{55}$                            |
| (2445,489,1467,440,50)   | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{11} + z_3 z_4^{89}$      | Chain + Cycle      | 4890  | 20559  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                           |
| (1577,5289,50,3663,461)  | $z_0^7 + z_4 z_1^2 + z_1 z_2^{115} + z_2 z_3^3 + z_3 z_4^{16}$     | BP + Cycle         | 11039 | 66240  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                               |
| (3325,50,660,599,2017)   | $z_0^2 + z_1^{133} + z_1 z_2^{10} + z_2 z_3^{10} + z_3 z_4^3$      | BP + Chain         | 6650  | 27798  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                           |
| (51,357,66,176,473)      | $z_0^{22} + z_0 z_1^3 + z_2^{17} + z_2 z_3^6 + z_3 z_4^2$          | Chain + Chain      | 1122  | 5310   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{34})^2 \oplus \mathbb{Z}_{17}$ |
| (403,944,51,491,127)     | $z_0^5 + z_4 z_1^2 + z_1 z_2^{21} + z_2 z_3^4 + z_3 z_4^{12}$      | BP + Cycle         | 2015  | 8064   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                               |
| (1715,686,147,51,2547)   | $z_0^3 + z_0 z_1^5 + z_2^{35} + z_2 z_3^{98} + z_3 z_4^2$          | Chain + Chain      | 5145  | 45032  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_7$                            |
| (535,214,799,51,221)     | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^{20} + z_3 z_4^8$     | Cycle + Cycle      | 1819  | 5760   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{107})^2$                       |
| (5083,299,3289,1445,51)  | $z_0^2 + z_0 z_1^{17} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{171}$     | Chain + Cycle      | 10166 | 82593  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                            |
| (546,4368,51,3077,1241)  | $z_0^{17} + z_0 z_1^2 + z_2^{182} + z_2 z_3^3 + z_3 z_4^5$         | Chain + Chain      | 9282  | 42570  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{182})^2$                       |
| (745,2384,6307,3179,51)  | $z_0^{17} + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^{186}$     | Chain + Cycle      | 12665 | 51336  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{149}$                           |
| (8092,4046,51,949,3047)  | $z_0^2 + z_0 z_1^2 + z_1 z_2^{238} + z_2 z_3^{17} + z_3 z_4^5$     | Chain              | 16184 | 65685  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{476}$                           |
| (1092,8190,51,5807,2333) | $z_0^{16} + z_0 z_1^2 + z_1 z_2^{182} + z_2 z_3^3 + z_3 z_4^5$     | Chain              | 17472 | 75695  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{2912}$                          |
| (51,1547,3893,2745,1098) | $z_0^{183} + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^6$        | Chain + Cycle      | 9333  | 23040  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{183})^2$                       |

| Weights                   | Polynomial  | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|---------------------------|---|--------------------|-------|--------|---|
| (7745,3098,10893,51,1449) | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{242} + z_3 z_4^{16}$    | Chain + Cycle      | 23235 | 100672 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1549}$                       |
| (52,3224,1625,375,1225)   | $z_0^{125} + z_0 z_1^2 + z_2^4 + z_2 z_3^{13} + z_3 z_4^5$        | Chain + Chain      | 6500  | 26586  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{20} \oplus \mathbb{Z}_4$     |
| (52,4810,2431,557,1823)   | $z_0^{186} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{13} + z_3 z_4^5$    | Chain              | 9672  | 39245  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{372}$                        |
| (5044,52,2509,583,1901)   | $z_0^2 + z_0 z_1^{97} + z_1 z_2^4 + z_2 z_3^{13} + z_3 z_4^5$     | Chain              | 10088 | 40935  | $\mathbb{Z}^4 \oplus \mathbb{Z}_8$                            |
| (373,59,262,53,99)        | $z_4 z_0^2 + z_0 z_1^8 + z_1 z_2^3 + z_2 z_3^{11} + z_3 z_4^8$    | Cycle              | 845   | 4224   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{845}$                        |
| (63,468,1113,53,1643)     | $z_0^{53} + z_0 z_1^7 + z_2^3 + z_2 z_3^{42} + z_3 z_4^2$         | Chain + Chain      | 3339  | 40832  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_3$                         |
| (255,1428,1989,53,3671)   | $z_0^{29} + z_0 z_1^5 + z_1 z_2^3 + z_2 z_3^{102} + z_3 z_4^2$    | Chain              | 7395  | 44688  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{29}$                         |
| (276,2346,1311,53,983)    | $z_0^{18} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{69} + z_3 z_4^5$     | Chain              | 4968  | 19925  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{36}$                         |
| (1195,2823,1576,53,329)   | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{83} + z_3 z_4^{18}$     | BP + Cycle         | 5975  | 23904  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                            |
| (2703,53,4028,969,357)    | $z_0^3 + z_0 z_1^{102} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{20}$    | Chain + Cycle      | 8109  | 49280  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                         |
| (53,4081,2067,1240,775)   | $z_0^{155} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^6 + z_3 z_4^9$       | Chain + Cycle      | 8215  | 25056  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{155})^2$                    |
| (357,119,119,66,54)       | $z_0^2 + z_1^6 + z_2^6 + z_4 z_3^{10} + z_3 z_4^{12}$             | BP + Cycle         | 714   | 3000   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                        |
| (378,54,117,71,137)       | $z_0^2 + z_0 z_1^7 + z_1 z_2^6 + z_2 z_3^9 + z_3 z_4^5$           | Chain              | 756   | 3095   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{12}$                         |
| (245,3185,945,54,2187)    | $z_0^{27} + z_0 z_1^2 + z_2^7 + z_2 z_3^{105} + z_3 z_4^3$        | Chain + Chain      | 6615  | 41328  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                     |
| (1278,54,2529,287,965)    | $z_0^4 + z_0 z_1^{71} + z_1 z_2^2 + z_2 z_3^9 + z_3 z_4^5$        | Chain              | 5112  | 20735  | $\mathbb{Z}^4 \oplus \mathbb{Z}_8$                            |
| (2853,317,4121,1215,54)   | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{136}$    | Chain + Cycle      | 8559  | 53312  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                        |
| (3555,395,1343,1764,54)   | $z_0^2 + z_0 z_1^9 + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{99}$        | Chain + Cycle      | 7110  | 28908  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{10} \oplus \mathbb{Z}_2$     |
| (57,1539,1045,55,440)     | $z_0^{55} + z_0 z_1^2 + z_2^3 + z_2 z_3^{38} + z_3 z_4^7$         | Chain + Chain      | 3135  | 38416  | $\mathbb{Z}^{24} \oplus (\mathbb{Z}_3)^2$                     |
| (616,924,55,73,797)       | $z_0^4 + z_0 z_1^2 + z_1 z_2^{28} + z_2 z_3^{33} + z_3 z_4^3$     | Chain              | 2464  | 15003  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{112}$                        |
| (527,97,92,339,55)        | $z_4 z_0^2 + z_0 z_1^6 + z_1 z_2^{11} + z_2 z_3^3 + z_3 z_4^{14}$ | Cycle              | 1109  | 5544   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1109}$                       |
| (583,55,1430,689,159)     | $z_0^5 + z_1^{53} + z_1 z_2^2 + z_4 z_3^4 + z_3 z_4^{14}$         | BP + Chain + Cycle | 2915  | 12096  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_5)^2$                        |
| (1691,178,55,2509,641)    | $z_0^3 + z_0 z_1^{19} + z_1 z_2^{89} + z_2 z_3^2 + z_3 z_4^4$     | Chain              | 5073  | 35456  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{267}$                        |
| (200,2100,55,869,1177)    | $z_0^{22} + z_0 z_1^2 + z_2^{80} + z_2 z_3^5 + z_3 z_4^3$         | Chain + Chain      | 4400  | 20217  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{40}$                         |
| (2365,55,935,1118,258)    | $z_0^2 + z_0 z_1^{43} + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{14}$     | Chain + Cycle      | 4730  | 19320  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                        |
| (269,1345,807,484,55)     | $z_0^{11} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^6 + z_3 z_4^{45}$     | Chain + Cycle      | 2959  | 8640   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{11})^2$                     |
| (5950,350,55,2369,3177)   | $z_0^2 + z_0 z_1^{17} + z_1 z_2^{210} + z_2 z_3^5 + z_3 z_4^3$    | Chain              | 11900 | 78507  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{140}$                        |
| (2048,1024,521,55,449)    | $z_0^2 + z_1^4 + z_4 z_2^7 + z_2 z_3^{65} + z_3 z_4^9$            | BP + Cycle         | 4096  | 12285  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2048}$                       |
| (477,1272,2279,55,4027)   | $z_0^{17} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{106} + z_3 z_4^2$    | Chain              | 8109  | 32656  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{51} \oplus \mathbb{Z}_3$     |
| (1672,3344,55,755,2535)   | $z_0^5 + z_0 z_1^2 + z_2^{152} + z_2 z_3^{11} + z_3 z_4^3$        | Chain + Chain      | 8360  | 20970  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{152})^2$                    |
| (784,56,63,215,451)       | $z_0^2 + z_0 z_1^{14} + z_1 z_2^{24} + z_2 z_3^7 + z_3 z_4^3$     | Chain              | 1568  | 10053  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{16}$                         |
| (1736,56,427,145,1109)    | $z_0^2 + z_0 z_1^{31} + z_1 z_2^8 + z_2 z_3^{21} + z_3 z_4^3$     | Chain              | 3472  | 21267  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{16}$                         |
| (243,1053,378,56,1673)    | $z_0^{14} + z_0 z_1^3 + z_2^9 + z_2 z_3^{54} + z_3 z_4^2$         | Chain + Chain      | 3402  | 14326  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$        |
| (1003,2377,1319,56,261)   | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{66} + z_3 z_4^{19}$     | BP + Cycle         | 5015  | 20064  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                            |
| (59,531,323,57,152)       | $z_0^{19} + z_0 z_1^2 + z_4 z_3^2 + z_2 z_3^{14} + z_3 z_4^7$     | Chain + Cycle      | 1121  | 5880   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{59})^2$                     |
| (74,592,2109,57,1387)     | $z_0^{57} + z_0 z_1^7 + z_2^2 + z_2 z_3^{37} + z_3 z_4^3$         | Chain + Chain      | 4218  | 51107  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_2)^6$ |



| Weights                    | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|----------------------------|--|---------------|-------|--------|---|
| (117,312,57,83,485)        | $z_0^9 + z_0 z_1^3 + z_1 z_2^{13} + z_2 z_3^{12} + z_3 z_4^2$  | Chain         | 1053  | 4544   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{117}$                        |
| (855,57,1976,211,2887)     | $z_0^7 + z_0 z_1^{90} + z_1 z_2^3 + z_2 z_3^{19} + z_3 z_4^2$  | Chain         | 5985  | 37176  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus (\mathbb{Z}_3)^5$ |
| (57,1083,2546,268,3685)    | $z_0^{134} + z_0 z_1^7 + z_2^3 + z_2 z_3^{19} + z_3 z_4^2$     | Chain + Chain | 7638  | 47495  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^6$    |
| (306,2754,57,1919,779)     | $z_0^{19} + z_0 z_1^2 + z_2^{102} + z_2 z_3^3 + z_3 z_4^5$     | Chain + Chain | 5814  | 26500  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{102})^2$                    |
| (740,3330,333,57,2201)     | $z_0^9 + z_1^2 + z_1 z_2^{10} + z_2 z_3^{111} + z_3 z_4^3$     | BP + Chain    | 6660  | 35672  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                            |
| (2048,1024,577,391,57)     | $z_0^2 + z_1^4 + z_4 z_2^7 + z_2 z_3^9 + z_3 z_4^{65}$         | BP + Cycle    | 4096  | 12285  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2048}$                       |
| (408,3468,57,2429,983)     | $z_0^{18} + z_0 z_1^2 + z_1 z_2^{68} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 7344  | 31805  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1224}$                       |
| (932,2330,1659,57,615)     | $z_0^6 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{69} + z_3 z_4^9$     | Chain + Cycle | 5592  | 13041  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{932}$                        |
| (58,1392,763,77,553)       | $z_0^{49} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{27} + z_3 z_4^5$  | Chain + Cycle | 2842  | 20250  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{406} \oplus \mathbb{Z}_{58}$ |
| (58,1392,917,385,91)       | $z_0^{49} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{27}$  | Chain + Cycle | 2842  | 20250  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{406} \oplus \mathbb{Z}_{58}$ |
| (113,791,1243,1073,58)     | $z_0^{29} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{38}$  | Chain + Cycle | 3277  | 16416  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{29})^2$                     |
| (1111,1601,433,58,131)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{50} + z_3 z_4^{25}$  | BP + Cycle    | 3333  | 20000  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                            |
| (70,580,2065,59,1357)      | $z_0^{59} + z_0 z_1^7 + z_2^2 + z_2 z_3^{35} + z_3 z_4^3$      | Chain + Chain | 4130  | 50055  | $\mathbb{Z}^{14} \oplus \mathbb{Z}_2$                         |
| (59,649,1003,855,90)       | $z_0^{45} + z_0 z_1^4 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{20}$  | Chain + Cycle | 2655  | 13440  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{45})^2$                     |
| (736,92,115,59,471)        | $z_0^2 + z_0 z_1^8 + z_1 z_2^{12} + z_2 z_3^{23} + z_3 z_4^3$  | Chain         | 1472  | 9009   | $\mathbb{Z}^8 \oplus \mathbb{Z}_8$                            |
| (1947,59,767,924,198)      | $z_0^2 + z_0 z_1^{33} + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{15}$  | Chain + Cycle | 3894  | 15900  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                        |
| (3271,4877,1234,373,59)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{23} + z_3 z_4^{160}$ | BP + Cycle    | 9813  | 58880  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                            |
| (460,3680,1035,59,2587)    | $z_0^{17} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{115} + z_3 z_4^3$ | Chain         | 7820  | 31398  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{68} \oplus \mathbb{Z}_4$     |
| (59,5015,2337,1938,741)    | $z_0^{171} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^4 + z_3 z_4^{11}$ | Chain + Cycle | 10089 | 30272  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{177} \oplus \mathbb{Z}_{59}$ |
| (3363,59,11741,7581,798)   | $z_0^7 + z_0 z_1^{342} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{20}$ | Chain + Cycle | 23541 | 144000 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                     |
| (4959,1197,11172,59,17327) | $z_0^7 + z_1^{29} + z_1 z_2^3 + z_2 z_3^{399} + z_3 z_4^2$     | BP + Chain    | 34713 | 208632 | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                            |
| (20473,59,5841,13186,1388) | $z_0^2 + z_0 z_1^{347} + z_1 z_2^7 + z_4 z_3^3 + z_3 z_4^{20}$ | Chain + Cycle | 40946 | 249900 | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^2$                     |
| (30189,2082,19432,59,8617) | $z_0^2 + z_1^{29} + z_1 z_2^3 + z_2 z_3^{694} + z_3 z_4^7$     | BP + Chain    | 60378 | 362327 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                            |
| (110,60,685,149,427)       | $z_0^{13} + z_0 z_1^{22} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$  | Chain         | 1430  | 6018   | $\mathbb{Z}^4 \oplus \mathbb{Z}_{26} \oplus \mathbb{Z}_2$     |
| (785,157,1099,255,60)      | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^9 + z_3 z_4^{35}$  | Chain + Cycle | 2355  | 10080  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                        |
| (855,285,60,167,1199)      | $z_0^3 + z_0 z_1^6 + z_1 z_2^{38} + z_2 z_3^{15} + z_3 z_4^2$  | Chain         | 2565  | 10928  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{57} \oplus \mathbb{Z}_{19}$  |
| (686,98,91,61,437)         | $z_0^2 + z_0 z_1^7 + z_1 z_2^{14} + z_2 z_3^{21} + z_3 z_4^3$  | Chain         | 1372  | 8415   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{28}$                         |
| (2048,512,1345,131,61)     | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{21} + z_3 z_4^{65}$      | BP + Cycle    | 4096  | 28665  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{1024}$                       |
| (1024,1536,1345,131,61)    | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{21} + z_3 z_4^{65}$  | Chain + Cycle | 4096  | 20475  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{2048}$                       |
| (7259,61,4819,2023,357)    | $z_0^2 + z_0 z_1^{119} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{35}$ | Chain + Cycle | 14518 | 116865 | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                         |
| (7619,5059,377,2123,61)    | $z_0^2 + z_4 z_1^3 + z_1 z_2^{27} + z_2 z_3^7 + z_3 z_4^{215}$ | BP + Cycle    | 15238 | 121905 | $\mathbb{Z}^8 \oplus \mathbb{Z}_2$                            |
| (2777,9689,650,6263,61)    | $z_0^7 + z_4 z_1^2 + z_1 z_2^{15} + z_2 z_3^3 + z_3 z_4^{216}$ | BP + Cycle    | 19439 | 116640 | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                            |
| (2803,6977,3519,656,61)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{16} + z_3 z_4^{219}$ | BP + Cycle    | 14015 | 56064  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                            |
| (7648,3824,717,61,3047)    | $z_0^2 + z_0 z_1^2 + z_1 z_2^{16} + z_2 z_3^{239} + z_3 z_4^5$ | Chain         | 15296 | 61245  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{32}$                         |
| (16155,1077,10411,61,4607) | $z_0^2 + z_0 z_1^{15} + z_1 z_2^3 + z_2 z_3^{359} + z_3 z_4^7$ | Chain         | 32310 | 193921 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                            |

| Weights                   | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|---------------------------|--|--------------------|-------|--------|--|
| (391,553,62,101,67)       | $z_0^3 + z_4 z_1^2 + z_1 z_2^{10} + z_2 z_3^{11} + z_3 z_4^{16}$ | BP + Cycle         | 1173  | 7040   | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                             |
| (1215,405,675,74,62)      | $z_0^2 + z_0 z_1^3 + z_1 z_2^3 + z_4 z_3^{32} + z_3 z_4^{38}$    | Chain + Cycle      | 2430  | 15808  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus \mathbb{Z}_2$         |
| (823,1961,1077,62,193)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{49} + z_3 z_4^{21}$    | BP + Cycle         | 4115  | 16464  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                             |
| (219,3285,2263,62,961)    | $z_0^{31} + z_0 z_1^2 + z_2^3 + z_2 z_3^{73} + z_3 z_4^7$        | Chain + Chain      | 6789  | 42112  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                      |
| (1239,63,522,71,1823)     | $z_0^3 + z_1^{59} + z_1 z_2^7 + z_2 z_3^{45} + z_3 z_4^2$        | BP + Chain         | 3717  | 37880  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_3$                          |
| (481,74,63,1171,617)      | $z_0^5 + z_0 z_1^{26} + z_1 z_2^{37} + z_2 z_3^2 + z_3 z_4^2$    | Chain              | 2405  | 14304  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{185} \oplus \mathbb{Z}_{37}$  |
| (441,63,90,137,593)       | $z_0^3 + z_0 z_1^{14} + z_1 z_2^{14} + z_2 z_3^9 + z_3 z_4^2$    | Chain              | 1323  | 5840   | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$      |
| (1715,735,63,121,2512)    | $z_0^3 + z_1^7 + z_1 z_2^{70} + z_2 z_3^{42} + z_3 z_4^2$        | BP + Chain         | 5145  | 42128  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^2$                         |
| (1561,446,892,161,63)     | $z_0^2 + z_1^7 + z_1 z_2^3 + z_4 z_3^{19} + z_3 z_4^{47}$        | BP + Chain + Cycle | 3122  | 13395  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                         |
| (164,1394,369,63,963)     | $z_0^{18} + z_0 z_1^2 + z_2^8 + z_2 z_3^{41} + z_3 z_4^3$        | Chain + Chain      | 2952  | 12597  | $\mathbb{Z}^8 \oplus \mathbb{Z}_4$                             |
| (63,1701,738,164,2501)    | $z_0^{82} + z_0 z_1^3 + z_2^7 + z_2 z_3^{27} + z_3 z_4^2$        | Chain + Chain      | 5166  | 32175  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{14})^3$                      |
| (747,63,1722,167,2531)    | $z_0^7 + z_1^{83} + z_1 z_2^3 + z_2 z_3^{21} + z_3 z_4^2$        | BP + Chain         | 5229  | 32376  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                             |
| (63,945,2226,212,3233)    | $z_0^{106} + z_0 z_1^7 + z_2^3 + z_2 z_3^{21} + z_3 z_4^2$       | Chain + Chain      | 6678  | 41405  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^6$     |
| (392,1568,63,495,1011)    | $z_0^9 + z_0 z_1^2 + z_2^{56} + z_2 z_3^7 + z_3 z_4^3$           | Chain + Chain      | 3528  | 8390   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{168} \oplus \mathbb{Z}_{56}$  |
| (784,2744,63,887,1795)    | $z_0^8 + z_0 z_1^2 + z_1 z_2^{56} + z_2 z_3^7 + z_3 z_4^3$       | Chain              | 6272  | 13431  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{448}$                         |
| (63,1053,4584,3407,5699)  | $z_0^{235} + z_0 z_1^{14} + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^2$   | Chain              | 14805 | 36424  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{705} \oplus \mathbb{Z}_3$     |
| (63,2289,3836,1423,6187)  | $z_0^{219} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$      | Chain              | 13797 | 30440  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{657} \oplus \mathbb{Z}_3$     |
| (1111,1258,83,65,817)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^{25} + z_2 z_3^{50} + z_3 z_4^4$    | BP + Cycle         | 3333  | 20000  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                             |
| (65,910,377,93,1351)      | $z_0^{43} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{26} + z_3 z_4^2$    | Chain              | 2795  | 17328  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{215} \oplus (\mathbb{Z}_5)^2$ |
| (99,396,117,65,611)       | $z_0^{13} + z_0 z_1^3 + z_2^{11} + z_2 z_3^{18} + z_3 z_4^2$     | Chain + Chain      | 1287  | 5616   | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{11})^3$                      |
| (1365,65,4745,3087,294)   | $z_0^7 + z_0 z_1^{126} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{22}$   | Chain + Cycle      | 9555  | 58608  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                      |
| (1577,5487,347,3564,65)   | $z_0^7 + z_4 z_1^2 + z_1 z_2^{16} + z_2 z_3^3 + z_3 z_4^{115}$   | BP + Cycle         | 11039 | 66240  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                             |
| (8379,3591,567,65,12536)  | $z_0^3 + z_1^7 + z_1 z_2^{38} + z_2 z_3^{378} + z_3 z_4^2$       | BP + Chain         | 25137 | 201616 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^2$                         |
| (16891,4826,762,65,11239) | $z_0^3 + z_1^7 + z_1 z_2^{38} + z_2 z_3^{378} + z_3 z_4^2$       | BP + Chain         | 33782 | 270516 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                         |
| (65,2678,829,6313,3571)   | $z_0^{207} + z_0 z_1^5 + z_1 z_2^{13} + z_2 z_3^2 + z_3 z_4^2$   | Chain              | 13455 | 39536  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2691}$                        |
| (803,73,511,154,66)       | $z_0^2 + z_0 z_1^{11} + z_1 z_2^3 + z_4 z_3^{10} + z_3 z_4^{22}$ | Chain + Cycle      | 1606  | 9900   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^4$                         |
| (67,469,205,80,185)       | $z_0^{15} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^{10} + z_3 z_4^5$    | Chain + Cycle      | 1005  | 3200   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{201} \oplus \mathbb{Z}_{67}$  |
| (67,469,230,155,85)       | $z_0^{15} + z_0 z_1^2 + z_4 z_2^4 + z_2 z_3^5 + z_3 z_4^{10}$    | Chain + Cycle      | 1005  | 3200   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{201} \oplus \mathbb{Z}_{67}$  |
| (1760,440,1151,103,67)    | $z_0^2 + z_1^8 + z_4 z_2^3 + z_2 z_3^{23} + z_3 z_4^{51}$        | BP + Cycle         | 3520  | 24633  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{880}$                         |
| (880,1320,1151,103,67)    | $z_0^4 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{23} + z_3 z_4^{51}$    | Chain + Cycle      | 3520  | 17595  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1760}$                        |
| (1687,2497,641,170,67)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{26} + z_3 z_4^{73}$    | BP + Cycle         | 5061  | 30368  | $\mathbb{Z}^6 \oplus \mathbb{Z}_3$                             |
| (1040,520,271,67,183)     | $z_0^2 + z_1^4 + z_4 z_2^7 + z_2 z_3^{27} + z_3 z_4^{11}$        | BP + Cycle         | 2080  | 6237   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1040}$                        |
| (1287,273,2912,67,4471)   | $z_0^7 + z_1^{33} + z_1 z_2^3 + z_2 z_3^{91} + z_3 z_4^2$        | BP + Chain         | 9009  | 54456  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                             |
| (7821,474,5056,67,2225)   | $z_0^2 + z_1^{33} + z_1 z_2^3 + z_2 z_3^{158} + z_3 z_4^7$       | BP + Chain         | 15642 | 93919  | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                             |
| (4355,67,6499,1365,780)   | $z_0^3 + z_0 z_1^{130} + z_1 z_2^2 + z_4 z_3^9 + z_3 z_4^{15}$   | Chain + Cycle      | 13065 | 52920  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                         |

| Weights                    | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|----------------------------|--|--------------------|-------|--------|--|
| (8777,67,5829,1834,1048)   | $z_0^2 + z_0 z_1^{131} + z_1 z_2^3 + z_4 z_3^9 + z_3 z_4^{15}$ | Chain + Cycle      | 17554 | 70875  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                         |
| (68,1088,561,99,429)       | $z_0^{33} + z_0 z_1^2 + z_2^4 + z_2 z_3^{17} + z_3 z_4^5$      | Chain + Chain      | 2244  | 9350   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_4)^2$                         |
| (68,2210,561,231,1419)     | $z_0^{66} + z_0 z_1^2 + z_2^8 + z_2 z_3^{17} + z_3 z_4^3$      | Chain + Chain      | 4488  | 18693  | $\mathbb{Z}^8 \oplus \mathbb{Z}_4$                             |
| (231,2541,1122,68,3893)    | $z_0^{34} + z_0 z_1^3 + z_2^7 + z_2 z_3^{99} + z_3 z_4^2$      | Chain + Chain      | 7854  | 48231  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{14})^3$                      |
| (6817,401,4411,1938,68)    | $z_0^2 + z_0 z_1^{17} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{172}$ | Chain + Cycle      | 13634 | 83076  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^4$                         |
| (529,69,1817,82,1207)      | $z_0^7 + z_0 z_1^{46} + z_1 z_2^2 + z_2 z_3^{23} + z_3 z_4^3$  | Chain              | 3703  | 29952  | $\mathbb{Z}^{10} \oplus \mathbb{Z}_7$                          |
| (145,638,1633,851,69)      | $z_0^{23} + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^2 + z_3 z_4^{36}$  | Chain + Cycle      | 3335  | 13392  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{29}$                          |
| (186,2046,69,1403,575)     | $z_0^{23} + z_0 z_1^2 + z_2^{62} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain      | 4278  | 19320  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{62})^2$                      |
| (1195,2953,1511,248,69)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{18} + z_3 z_4^{83}$  | BP + Cycle         | 5975  | 23904  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                             |
| (69,6969,3519,2639,812)    | $z_0^{203} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^{14}$ | Chain + Cycle      | 14007 | 42560  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{203})^2$                     |
| (69,11523,1005,7370,3149)  | $z_0^{335} + z_0 z_1^2 + z_2^{23} + z_2 z_3^3 + z_3 z_4^5$     | Chain + Chain      | 23115 | 100128 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{115} \oplus \mathbb{Z}_{23}$  |
| (1015,3248,69,8593,4331)   | $z_0^{17} + z_0 z_1^5 + z_1 z_2^{203} + z_2 z_3^2 + z_3 z_4^2$ | Chain              | 17255 | 51696  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{3451}$                        |
| (11008,5504,4145,69,1291)  | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{259} + z_3 z_4^{17}$     | BP + Cycle         | 22016 | 66045  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{11008}$                       |
| (22701,69,1971,14477,6185) | $z_0^2 + z_0 z_1^{329} + z_1 z_2^{23} + z_2 z_3^3 + z_3 z_4^5$ | Chain              | 45402 | 196085 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{46}$                          |
| (1505,70,635,97,2209)      | $z_0^3 + z_0 z_1^{43} + z_1 z_2^7 + z_2 z_3^{40} + z_3 z_4^2$  | Chain              | 4515  | 36896  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{21}$                          |
| (2660,70,125,1039,1427)    | $z_0^2 + z_0 z_1^{38} + z_1 z_2^{42} + z_2 z_3^5 + z_3 z_4^3$  | Chain              | 5320  | 35037  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{28}$                          |
| (685,137,2329,1575,70)     | $z_0^7 + z_0 z_1^{30} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{46}$  | Chain + Cycle      | 4795  | 29808  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                      |
| (1113,159,689,196,70)      | $z_0^2 + z_0 z_1^7 + z_1 z_2^3 + z_4 z_3^{11} + z_3 z_4^{29}$  | Chain + Cycle      | 2226  | 9251   | $\mathbb{Z}^4 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_2)^2$     |
| (177,3009,2065,70,875)     | $z_0^{35} + z_0 z_1^2 + z_2^3 + z_2 z_3^{59} + z_3 z_4^7$      | Chain + Chain      | 6195  | 38304  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                      |
| (70,7560,545,2929,4087)    | $z_0^{217} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^5 + z_3 z_4^3$ | Chain              | 15190 | 66618  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{3038} \oplus \mathbb{Z}_{14}$ |
| (70,1274,2583,551,1963)    | $z_0^{92} + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^7 + z_3 z_4^3$     | Chain              | 6440  | 13431  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{184}$                         |
| (1507,4521,959,70,3493)    | $z_0^7 + z_0 z_1^2 + z_2^{11} + z_2 z_3^{137} + z_3 z_4^3$     | Chain + Chain      | 10549 | 24192  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{11})^2$                      |
| (8295,70,3545,1067,11909)  | $z_0^3 + z_0 z_1^{237} + z_1 z_2^7 + z_2 z_3^{20} + z_3 z_4^2$ | Chain              | 24885 | 103808 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{21}$                          |
| (4823,2067,6201,1309,70)   | $z_0^3 + z_1^7 + z_1 z_2^2 + z_4 z_3^{11} + z_3 z_4^{188}$     | BP + Chain + Cycle | 14469 | 33088  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                         |
| (124,1426,775,71,581)      | $z_0^{24} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{31} + z_3 z_4^5$  | Chain              | 2976  | 11975  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{48}$                          |
| (71,639,355,152,133)       | $z_0^{19} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^9$     | Chain + Cycle      | 1349  | 4032   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{19})^2$                      |
| (1063,635,71,137,221)      | $z_0^2 + z_4 z_1^3 + z_1 z_2^{21} + z_2 z_3^{15} + z_3 z_4^9$  | BP + Cycle         | 2126  | 8505   | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                             |
| (1040,520,287,163,71)      | $z_0^2 + z_1^4 + z_4 z_2^7 + z_2 z_3^{11} + z_3 z_4^{27}$      | BP + Cycle         | 2080  | 6237   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1040}$                        |
| (1035,207,2346,71,3587)    | $z_0^7 + z_0 z_1^{30} + z_1 z_2^3 + z_2 z_3^{69} + z_3 z_4^2$  | Chain              | 7245  | 43896  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus (\mathbb{Z}_3)^5$  |
| (72,6264,525,4025,1715)    | $z_0^{175} + z_0 z_1^2 + z_2^{24} + z_2 z_3^3 + z_3 z_4^5$     | Chain + Chain      | 12600 | 54736  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{120} \oplus \mathbb{Z}_{24}$  |
| (72,6660,561,4277,1823)    | $z_0^{186} + z_0 z_1^2 + z_1 z_2^{12} + z_2 z_3^3 + z_3 z_4^5$ | Chain              | 13392 | 57845  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{2232}$                        |
| (12384,72,1029,7913,3371)  | $z_0^2 + z_0 z_1^{172} + z_1 z_2^{24} + z_2 z_3^3 + z_3 z_4^5$ | Chain              | 24768 | 106985 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{48}$                          |
| (403,971,87,482,73)        | $z_0^5 + z_4 z_1^2 + z_1 z_2^{12} + z_2 z_3^4 + z_3 z_4^{21}$  | BP + Cycle         | 2015  | 8064   | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                             |
| (1003,2471,1272,197,73)    | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^{66}$  | BP + Cycle         | 5015  | 20064  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                             |
| (2860,858,9581,73,6649)    | $z_0^7 + z_0 z_1^{20} + z_1 z_2^2 + z_2 z_3^{143} + z_3 z_4^3$ | Chain              | 20020 | 80226  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$      |

| Weights                    | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|----------------------------|--|---------------|-------|--------|---|
| (77,539,105,75,360)        | $z_0^{15} + z_0 z_1^2 + z_2^{11} + z_2 z_3^{14} + z_3 z_4^3$   | Chain + Chain | 1155  | 5088   | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{11})^2$                     |
| (675,75,1550,127,2299)     | $z_0^7 + z_0 z_1^{54} + z_1 z_2^3 + z_2 z_3^{25} + z_3 z_4^2$  | Chain         | 4725  | 29112  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus (\mathbb{Z}_3)^5$ |
| (162,1944,75,1325,545)     | $z_0^{25} + z_0 z_1^2 + z_2^{54} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain | 4050  | 18226  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{270} \oplus \mathbb{Z}_{54}$ |
| (932,2330,1839,417,75)     | $z_0^6 + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^9 + z_3 z_4^{69}$     | Chain + Cycle | 5592  | 13041  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{932}$                        |
| (75,2425,490,1372,2989)    | $z_0^{98} + z_0 z_1^3 + z_2^{15} + z_2 z_3^5 + z_3 z_4^2$      | Chain + Chain | 7350  | 17533  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{10}$                         |
| (75,19125,12775,1022,5329) | $z_0^{511} + z_0 z_1^2 + z_2^3 + z_2 z_3^{25} + z_3 z_4^7$     | Chain + Chain | 38325 | 231424 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$     |
| (26175,75,17425,1397,7279) | $z_0^2 + z_0 z_1^{349} + z_1 z_2^3 + z_2 z_3^{25} + z_3 z_4^7$ | Chain         | 52350 | 315497 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                            |
| (874,76,3021,163,1985)     | $z_0^7 + z_0 z_1^{69} + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^3$  | Chain         | 6118  | 37197  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^2$ |
| (299,2691,1495,1121,76)    | $z_0^{19} + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^5 + z_3 z_4^{60}$  | Chain + Cycle | 5681  | 16800  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{19})^2$                     |
| (777,4107,9842,76,14725)   | $z_0^{38} + z_0 z_1^7 + z_2^3 + z_2 z_3^{259} + z_3 z_4^2$     | Chain + Chain | 29526 | 178391 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                            |
| (10298,76,15409,815,4297)  | $z_0^3 + z_0 z_1^{271} + z_1 z_2^2 + z_2 z_3^{19} + z_3 z_4^7$ | Chain         | 30894 | 186179 | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                            |
| (19817,1043,5513,13186,76) | $z_0^2 + z_0 z_1^{19} + z_1 z_2^7 + z_4 z_3^3 + z_3 z_4^{348}$ | Chain + Cycle | 39634 | 239076 | $\mathbb{Z}^6 \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$     |
| (29241,19494,76,1537,8135) | $z_0^2 + z_1^3 + z_1 z_2^{513} + z_2 z_3^{38} + z_3 z_4^7$     | BP + Chain    | 58482 | 352429 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                            |
| (167,501,334,91,77)        | $z_0^7 + z_0 z_1^2 + z_1 z_2^2 + z_4 z_3^{12} + z_3 z_4^{14}$  | Chain + Cycle | 1169  | 3360   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_7)^2$                        |
| (77,2849,825,150,1875)     | $z_0^{75} + z_0 z_1^2 + z_2^7 + z_2 z_3^{33} + z_3 z_4^3$      | Chain + Chain | 5775  | 35568  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                     |
| (5005,77,1419,3250,260)    | $z_0^2 + z_0 z_1^{65} + z_1 z_2^7 + z_4 z_3^3 + z_3 z_4^{26}$  | Chain + Cycle | 10010 | 60918  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$     |
| (2025,675,300,77,2999)     | $z_0^3 + z_0 z_1^6 + z_1 z_2^{18} + z_2 z_3^{75} + z_3 z_4^2$  | Chain         | 6075  | 24608  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{27} \oplus \mathbb{Z}_9$     |
| (77,3850,1661,453,5587)    | $z_0^{151} + z_0 z_1^3 + z_2^7 + z_2 z_3^{22} + z_3 z_4^2$     | Chain + Chain | 11627 | 48480  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_7)^3$                        |
| (4608,2304,1747,77,481)    | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{97} + z_3 z_4^{19}$      | BP + Cycle    | 9216  | 27645  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{4608}$                       |
| (1495,115,575,728,78)      | $z_0^2 + z_0 z_1^{13} + z_1 z_2^5 + z_4 z_3^4 + z_3 z_4^{29}$  | Chain + Cycle | 2990  | 12180  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                        |
| (119,2261,663,78,1521)     | $z_0^{39} + z_0 z_1^2 + z_2^7 + z_2 z_3^{51} + z_3 z_4^3$      | Chain + Chain | 4641  | 28800  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                     |
| (78,3666,285,2375,1007)    | $z_0^{95} + z_0 z_1^2 + z_2^{26} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain | 7410  | 32352  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{130} \oplus \mathbb{Z}_{26}$ |
| (14157,78,9412,727,3941)   | $z_0^2 + z_1^{363} + z_1 z_2^3 + z_2 z_3^{26} + z_3 z_4^7$     | BP + Chain    | 28314 | 170611 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                            |
| (1715,98,721,79,2533)      | $z_0^3 + z_0 z_1^{35} + z_1 z_2^7 + z_2 z_3^{56} + z_3 z_4^2$  | Chain         | 5145  | 41792  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{21}$                         |
| (682,124,2325,79,1565)     | $z_0^7 + z_0 z_1^{33} + z_1 z_2^2 + z_2 z_3^{31} + z_3 z_4^3$  | Chain         | 4774  | 28881  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_2)^2$ |
| (819,147,1862,79,2827)     | $z_0^7 + z_1^{39} + z_1 z_2^3 + z_2 z_3^{49} + z_3 z_4^2$      | BP + Chain    | 5733  | 34872  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                            |
| (4991,1426,186,79,3301)    | $z_0^2 + z_1^7 + z_1 z_2^{46} + z_2 z_3^{124} + z_3 z_4^3$     | BP + Chain    | 9982  | 80172  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^2$                        |
| (6083,79,9085,2541,462)    | $z_0^3 + z_0 z_1^{154} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{34}$ | Chain + Cycle | 18249 | 110432 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                        |
| (12245,79,8137,3410,620)   | $z_0^2 + z_0 z_1^{155} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{34}$ | Chain + Cycle | 24490 | 147798 | $\mathbb{Z}^8 \oplus (\mathbb{Z}_2)^4$                        |
| (2170,2790,9455,79,7207)   | $z_0^{10} + z_0 z_1^7 + z_1 z_2^2 + z_2 z_3^{155} + z_3 z_4^3$ | Chain         | 21700 | 43479  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{20}$                         |
| (9893,12931,79,2960,3817)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^{212} + z_2 z_3^{10} + z_3 z_4^7$ | BP + Cycle    | 29679 | 59360  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (80,3080,195,1209,1677)    | $z_0^{78} + z_0 z_1^2 + z_2^{32} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain | 6240  | 27729  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{16}$                         |
| (823,2017,1049,146,81)     | $z_0^5 + z_4 z_1^2 + z_1 z_2^2 + z_2 z_3^{21} + z_3 z_4^{49}$  | BP + Cycle    | 4115  | 16464  | $\mathbb{Z}^4 \oplus \mathbb{Z}_5$                            |
| (81,3159,237,2054,869)     | $z_0^{79} + z_0 z_1^2 + z_2^{27} + z_2 z_3^3 + z_3 z_4^5$      | Chain + Chain | 6399  | 28000  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{27})^2$                     |
| (371,4823,1431,81,3312)    | $z_0^{27} + z_0 z_1^2 + z_2^7 + z_2 z_3^{106} + z_3 z_4^3$     | Chain + Chain | 10017 | 41720  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{21})^2$                     |

| Weights                     | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|-----------------------------|--|---------------|-------|--------|---|
| (530,2120,477,81,1563)      | $z_0^9 + z_0 z_1^2 + z_2^{10} + z_2 z_3^{53} + z_3 z_4^3$      | Chain + Chain | 4770  | 10690  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{30} \oplus \mathbb{Z}_{10}$  |
| (4311,479,6227,1836,81)     | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{137}$ | Chain + Cycle | 12933 | 53704  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                        |
| (2157,719,2876,639,81)      | $z_0^3 + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^{10} + z_3 z_4^{72}$  | Chain + Cycle | 6471  | 14400  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (9703,6211,2639,81,773)     | $z_0^2 + z_4 z_1^3 + z_1 z_2^5 + z_2 z_3^{207} + z_3 z_4^{25}$ | BP + Cycle    | 19406 | 77625  | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                            |
| (81,2835,954,848,3869)      | $z_0^{106} + z_0 z_1^3 + z_2^9 + z_2 z_3^9 + z_3 z_4^2$        | Chain + Chain | 8586  | 18957  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{18} \oplus (\mathbb{Z}_9)^2$ |
| (4063,956,81,10117,5099)    | $z_0^5 + z_0 z_1^{17} + z_1 z_2^{239} + z_2 z_3^2 + z_3 z_4^2$ | Chain         | 20315 | 60864  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1195}$                       |
| (1035,81,6528,4379,7643)    | $z_0^{19} + z_0 z_1^{230} + z_1 z_2^3 + z_2 z_3^3 + z_3 z_4^2$ | Chain         | 19665 | 48088  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{57} \oplus \mathbb{Z}_3$     |
| (11008,5504,4387,1037,81)   | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{17} + z_3 z_4^{259}$     | BP + Cycle    | 22016 | 66045  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{11008}$                      |
| (8634,5756,10073,1359,81)   | $z_0^3 + z_0 z_1^3 + z_1 z_2^2 + z_4 z_3^{19} + z_3 z_4^{303}$ | Chain + Cycle | 25902 | 63327  | $\mathbb{Z}^2 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^2$    |
| (747,83,2573,1701,126)      | $z_0^7 + z_0 z_1^{54} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{28}$  | Chain + Cycle | 5229  | 32256  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_7)^2$                     |
| (1630,4238,9291,83,7579)    | $z_0^{14} + z_0 z_1^5 + z_1 z_2^2 + z_2 z_3^{163} + z_3 z_4^3$ | Chain         | 22820 | 45723  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{28}$                         |
| (10733,13109,83,2294,5981)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^{230} + z_2 z_3^{14} + z_3 z_4^5$ | BP + Cycle    | 32199 | 64400  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (84,1386,735,101,551)       | $z_0^{34} + z_0 z_1^2 + z_1 z_2^2 + z_2 z_3^{21} + z_3 z_4^5$  | Chain         | 2856  | 11525  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{68}$                         |
| (84,2982,219,1943,821)      | $z_0^{72} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^3 + z_3 z_4^5$  | Chain         | 6048  | 26135  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1008}$                       |
| (535,214,867,119,85)        | $z_1 z_0^3 + z_0 z_1^6 + z_4 z_2^2 + z_2 z_3^8 + z_3 z_4^{20}$ | Cycle + Cycle | 1819  | 5760   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{107})^2$                    |
| (1090,8720,85,3689,4947)    | $z_0^{17} + z_0 z_1^2 + z_2^{218} + z_2 z_3^5 + z_3 z_4^3$     | Chain + Chain | 18530 | 43146  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{218})^2$                    |
| (7221,16849,1162,85,25231)  | $z_0^7 + z_1^3 + z_1 z_2^{29} + z_2 z_3^{581} + z_3 z_4^2$     | BP + Chain    | 50547 | 303792 | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                            |
| (1761,9392,11237,85,7463)   | $z_0^{17} + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{220} + z_3 z_4^4$ | Chain + Cycle | 29937 | 61600  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{587}$                        |
| (8228,12342,85,1931,10327)  | $z_0^4 + z_0 z_1^2 + z_1 z_2^{242} + z_2 z_3^{17} + z_3 z_4^3$ | Chain         | 32912 | 67755  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{968}$                        |
| (43761,29174,2012,85,12491) | $z_0^2 + z_1^3 + z_1 z_2^{29} + z_2 z_3^{1006} + z_3 z_4^7$    | BP + Chain    | 87522 | 525217 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                            |
| (2180,16350,85,6959,9307)   | $z_0^{16} + z_0 z_1^2 + z_1 z_2^{218} + z_2 z_3^5 + z_3 z_4^3$ | Chain         | 34880 | 76719  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{3488}$                       |
| (7809,10412,18305,85,2435)  | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{244} + z_3 z_4^{16}$ | Chain + Cycle | 39045 | 85888  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2603}$                       |
| (2987,103,1957,841,87)      | $z_0^2 + z_0 z_1^{29} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{59}$  | Chain + Cycle | 5974  | 48321  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                         |
| (87,5133,3451,238,1445)     | $z_0^{119} + z_0 z_1^2 + z_2^3 + z_2 z_3^{29} + z_3 z_4^7$     | Chain + Chain | 10353 | 62880  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$     |
| (7047,87,4669,325,1967)     | $z_0^2 + z_0 z_1^{81} + z_1 z_2^3 + z_2 z_3^{29} + z_3 z_4^7$  | Chain         | 14094 | 84889  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                            |
| (1529,139,973,330,88)       | $z_0^2 + z_0 z_1^{11} + z_1 z_2^3 + z_4 z_3^9 + z_3 z_4^{31}$  | Chain + Cycle | 3058  | 12555  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                        |
| (2739,913,88,739,3739)      | $z_0^3 + z_0 z_1^6 + z_1 z_2^{83} + z_2 z_3^{11} + z_3 z_4^2$  | Chain         | 8217  | 17912  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{249} \oplus \mathbb{Z}_{83}$ |
| (88,4950,7469,1129,6253)    | $z_0^{226} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 19888 | 40905  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{452}$                        |
| (3115,89,2047,875,105)      | $z_0^2 + z_0 z_1^{35} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{51}$  | Chain + Cycle | 6230  | 50337  | $\mathbb{Z}^{12} \oplus \mathbb{Z}_2$                         |
| (7917,3393,522,89,11831)    | $z_0^3 + z_1^7 + z_1 z_2^{39} + z_2 z_3^{261} + z_3 z_4^2$     | BP + Chain    | 23751 | 143040 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                        |
| (560,630,2485,89,1837)      | $z_0^{10} + z_0 z_1^8 + z_1 z_2^2 + z_2 z_3^{35} + z_3 z_4^3$  | Chain         | 5600  | 11289  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{20}$                         |
| (15925,4550,700,89,10587)   | $z_0^2 + z_1^7 + z_1 z_2^{39} + z_2 z_3^{350} + z_3 z_4^3$     | BP + Chain    | 31850 | 191367 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                        |
| (4133,5584,1363,89,1231)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^5 + z_2 z_3^{124} + z_3 z_4^{10}$ | BP + Cycle    | 12399 | 24800  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (6525,1566,14703,89,22793)  | $z_0^7 + z_0 z_1^{25} + z_1 z_2^3 + z_2 z_3^{348} + z_3 z_4^2$ | Chain         | 45675 | 183056 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{21}$                         |
| (39703,25561,89,11331,2723) | $z_0^2 + z_4 z_1^3 + z_1 z_2^{605} + z_2 z_3^7 + z_3 z_4^{25}$ | BP + Cycle    | 79406 | 317625 | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                            |

| Weights                    | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|----------------------------|--|--------------------|-------|--------|--|
| (485,97,679,105,90)        | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^{13} + z_3 z_4^{15}$ | Chain + Cycle      | 1455  | 6240   | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                           |
| (177,413,1121,855,90)      | $z_0^{15} + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{20}$    | Chain + Cycle      | 2655  | 6240   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{15})^2$                        |
| (189,567,90,200,845)       | $z_0^{10} + z_0 z_1^3 + z_2^{21} + z_2 z_3^9 + z_3 z_4^2$        | Chain + Chain      | 1890  | 4389   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{42} \oplus (\mathbb{Z}_{21})^2$ |
| (2385,90,785,637,3259)     | $z_0^3 + z_0 z_1^{53} + z_1 z_2^9 + z_2 z_3^{10} + z_3 z_4^2$    | Chain              | 7155  | 15584  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{27}$                            |
| (4608,2304,1825,389,91)    | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{19} + z_3 z_4^{97}$        | BP + Cycle         | 9216  | 27645  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{4608}$                          |
| (9703,5181,569,91,3863)    | $z_0^2 + z_4 z_1^3 + z_1 z_2^{25} + z_2 z_3^{207} + z_3 z_4^5$   | BP + Cycle         | 19406 | 77625  | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                               |
| (91,12103,3471,801,7832)   | $z_0^{267} + z_0 z_1^2 + z_2^7 + z_2 z_3^{26} + z_3 z_4^3$       | Chain + Chain      | 24297 | 99160  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{21})^2$                        |
| (1432,8592,2327,91,6175)   | $z_0^{13} + z_0 z_1^2 + z_2^8 + z_2 z_3^{179} + z_3 z_4^3$       | Chain + Chain      | 18616 | 40194  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_8)^2$                           |
| (91,12103,1869,3204,7031)  | $z_0^{267} + z_0 z_1^2 + z_2^{13} + z_2 z_3^7 + z_3 z_4^3$       | Chain + Chain      | 24297 | 51992  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{39} \oplus \mathbb{Z}_{13}$     |
| (8177,1887,11322,3055,91)  | $z_0^3 + z_1^{13} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{236}$       | BP + Chain + Cycle | 24531 | 52864  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                           |
| (22841,91,3507,6025,13219) | $z_0^2 + z_0 z_1^{251} + z_1 z_2^{13} + z_2 z_3^7 + z_3 z_4^3$   | Chain              | 45682 | 97389  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{26}$                            |
| (92,1334,345,105,885)      | $z_0^{30} + z_0 z_1^2 + z_2^8 + z_2 z_3^{23} + z_3 z_4^3$        | Chain + Chain      | 2760  | 11625  | $\mathbb{Z}^8 \oplus \mathbb{Z}_4$                               |
| (105,1575,690,92,2369)     | $z_0^{46} + z_0 z_1^3 + z_2^7 + z_2 z_3^{45} + z_3 z_4^2$        | Chain + Chain      | 4830  | 29853  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_{14})^3$                        |
| (189,1215,2898,92,4301)    | $z_0^{46} + z_0 z_1^7 + z_2^3 + z_2 z_3^{63} + z_3 z_4^2$        | Chain + Chain      | 8694  | 52907  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6$                               |
| (8625,5750,92,373,2411)    | $z_0^2 + z_1^3 + z_1 z_2^{125} + z_2 z_3^{46} + z_3 z_4^7$       | BP + Chain         | 17250 | 103873 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                               |
| (126,1890,93,1271,527)     | $z_0^{31} + z_0 z_1^2 + z_2^{42} + z_2 z_3^3 + z_3 z_4^5$        | Chain + Chain      | 3906  | 17440  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{42})^2$                        |
| (93,4185,2821,182,1183)    | $z_0^{91} + z_0 z_1^2 + z_2^3 + z_2 z_3^{31} + z_3 z_4^7$        | Chain + Chain      | 8463  | 51520  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_3)^2$                        |
| (5673,93,3751,1586,244)    | $z_0^2 + z_0 z_1^{61} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{40}$    | Chain + Cycle      | 11346 | 68600  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_2)^3$       |
| (637,6370,2821,93,9827)    | $z_0^{31} + z_0 z_1^3 + z_2^7 + z_2 z_3^{182} + z_3 z_4^2$       | Chain + Chain      | 19747 | 80640  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_7)^3$                           |
| (7745,3098,11571,729,93)   | $z_0^3 + z_0 z_1^5 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{242}$   | Chain + Cycle      | 23235 | 100672 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{1549}$                          |
| (16128,1008,93,10721,4307) | $z_0^2 + z_0 z_1^{16} + z_1 z_2^{336} + z_2 z_3^3 + z_3 z_4^5$   | Chain              | 32256 | 139745 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{672}$                           |
| (17081,1102,11020,4867,93) | $z_0^2 + z_1^{31} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{315}$       | BP + Chain + Cycle | 34162 | 138915 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                           |
| (4133,4969,743,94,2461)    | $z_0^3 + z_4 z_1^2 + z_1 z_2^{10} + z_2 z_3^{124} + z_3 z_4^5$   | BP + Cycle         | 12399 | 24800  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                               |
| (1023,341,124,95,1487)     | $z_0^3 + z_0 z_1^6 + z_1 z_2^{22} + z_2 z_3^{31} + z_3 z_4^2$    | Chain              | 3069  | 12656  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{33} \oplus \mathbb{Z}_{11}$     |
| (1063,677,161,131,95)      | $z_0^2 + z_4 z_1^3 + z_1 z_2^9 + z_2 z_3^{15} + z_3 z_4^{21}$    | BP + Cycle         | 2126  | 8505   | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                               |
| (1209,1612,155,95,2975)    | $z_0^5 + z_0 z_1^3 + z_2^{39} + z_2 z_3^{62} + z_3 z_4^2$        | Chain + Chain      | 6045  | 27016  | $\mathbb{Z}^8 \oplus \mathbb{Z}_{13}$                            |
| (95,1045,170,612,1309)     | $z_0^{34} + z_0 z_1^3 + z_2^{19} + z_2 z_3^5 + z_3 z_4^2$        | Chain + Chain      | 3230  | 7797   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{38} \oplus (\mathbb{Z}_{19})^2$ |
| (610,5490,95,2299,3097)    | $z_0^{19} + z_0 z_1^2 + z_2^{122} + z_2 z_3^5 + z_3 z_4^3$       | Chain + Chain      | 11590 | 26820  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{122})^2$                       |
| (4114,2618,15147,95,10939) | $z_0^8 + z_0 z_1^{11} + z_1 z_2^2 + z_2 z_3^{187} + z_3 z_4^3$   | Chain              | 32912 | 65919  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{16}$                            |
| (14549,20087,95,5444,3473) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{248} + z_2 z_3^8 + z_3 z_4^{11}$   | BP + Cycle         | 43647 | 87296  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                               |
| (96,2208,141,1457,611)     | $z_0^{47} + z_0 z_1^2 + z_2^{32} + z_2 z_3^3 + z_3 z_4^5$        | Chain + Chain      | 4512  | 19920  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_{32})^2$                        |
| (1881,4389,266,97,6535)    | $z_0^7 + z_1^3 + z_1 z_2^{33} + z_2 z_3^{133} + z_3 z_4^2$       | BP + Chain         | 13167 | 79584  | $\mathbb{Z}^6 \oplus \mathbb{Z}_7$                               |
| (11385,7590,460,97,3239)   | $z_0^2 + z_1^3 + z_1 z_2^{33} + z_2 z_3^{230} + z_3 z_4^7$       | BP + Chain         | 22770 | 136717 | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                               |
| (1995,3420,7505,97,12919)  | $z_0^{13} + z_0 z_1^7 + z_1 z_2^3 + z_2 z_3^{190} + z_3 z_4^2$   | Chain              | 25935 | 52064  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{39}$                            |
| (24365,14101,97,3741,6427) | $z_0^2 + z_4 z_1^3 + z_1 z_2^{357} + z_2 z_3^{13} + z_3 z_4^7$   | BP + Cycle         | 48730 | 97461  | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                               |

| Weights                      | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|------------------------------|--|---------------|-------|--------|--|
| (6664,98,945,1769,3853)      | $z_0^2 + z_0 z_1^{68} + z_1 z_2^{14} + z_2 z_3^7 + z_3 z_4^3$    | Chain         | 13328 | 28425  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{28}$                            |
| (99,825,234,260,1157)        | $z_0^{26} + z_0 z_1^3 + z_2^{11} + z_2 z_3^9 + z_3 z_4^2$        | Chain + Chain | 2574  | 5777   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{22}$                            |
| (1077,359,1436,261,99)       | $z_0^3 + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^{12} + z_3 z_4^{30}$    | Chain + Cycle | 3231  | 7200   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                           |
| (2586,1724,3017,333,99)      | $z_0^3 + z_0 z_1^3 + z_1 z_2^2 + z_4 z_3^{23} + z_3 z_4^{75}$    | Chain + Cycle | 7758  | 18975  | $\mathbb{Z}^2 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^2$       |
| (9129,537,99,6053,2441)      | $z_0^2 + z_0 z_1^{17} + z_1 z_2^{179} + z_2 z_3^3 + z_3 z_4^5$   | Chain         | 18258 | 79085  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{358}$                           |
| (848,7208,4077,99,3033)      | $z_0^{18} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{113} + z_3 z_4^5$   | Chain + Cycle | 15264 | 32205  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{848}$                           |
| (3429,4572,99,947,8099)      | $z_0^5 + z_0 z_1^3 + z_1 z_2^{127} + z_2 z_3^{18} + z_3 z_4^2$   | Chain         | 17145 | 36184  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{635}$                           |
| (100,2050,105,819,1127)      | $z_0^{42} + z_0 z_1^2 + z_2^{40} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain | 4200  | 18877  | $\mathbb{Z}^6 \oplus \mathbb{Z}_{60}$                            |
| (147,1029,2450,100,3625)     | $z_0^{50} + z_0 z_1^7 + z_2^3 + z_2 z_3^{49} + z_3 z_4^2$        | Chain + Chain | 7350  | 44849  | $\mathbb{Z}^6 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^6$       |
| (4925,197,1379,3250,100)     | $z_0^2 + z_0 z_1^{25} + z_1 z_2^7 + z_4 z_3^3 + z_3 z_4^{66}$    | Chain + Cycle | 9850  | 59598  | $\mathbb{Z}^{12} \oplus (\mathbb{Z}_2)^2$                        |
| (539,1617,490,100,2645)      | $z_0^{10} + z_0 z_1^3 + z_2^{11} + z_2 z_3^{49} + z_3 z_4^2$     | Chain + Chain | 5390  | 11529  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{22} \oplus (\mathbb{Z}_{11})^2$ |
| (4945,989,2967,890,100)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{11} + z_3 z_4^{90}$    | Chain + Cycle | 9890  | 20790  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                           |
| (2688,1344,1033,101,211)     | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{43} + z_3 z_4^{25}$        | BP + Cycle    | 5376  | 16125  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2688}$                          |
| (2057,121,3025,867,102)      | $z_0^3 + z_0 z_1^{34} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{52}$    | Chain + Cycle | 6171  | 37856  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                           |
| (4845,102,3196,191,1357)     | $z_0^2 + z_1^{95} + z_1 z_2^3 + z_2 z_3^{34} + z_3 z_4^7$        | BP + Chain    | 9690  | 58331  | $\mathbb{Z}^6 \oplus \mathbb{Z}_2$                               |
| (1768,102,6137,367,4003)     | $z_0^7 + z_0 z_1^{104} + z_1 z_2^2 + z_2 z_3^{17} + z_3 z_4^3$   | Chain         | 12376 | 50238  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{14} \oplus \mathbb{Z}_2$        |
| (10285,605,6655,2924,102)    | $z_0^2 + z_0 z_1^{17} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{173}$   | Chain + Cycle | 20570 | 83559  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                           |
| (3333,2424,9191,103,14947)   | $z_0^9 + z_0 z_1^{11} + z_1 z_2^3 + z_2 z_3^{202} + z_3 z_4^2$   | Chain         | 29997 | 60200  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{27}$                            |
| (27101,16607,103,6011,4381)  | $z_0^2 + z_4 z_1^3 + z_1 z_2^{365} + z_2 z_3^9 + z_3 z_4^{11}$   | BP + Cycle    | 54202 | 108405 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                               |
| (114,1938,105,1295,539)      | $z_0^{35} + z_0 z_1^2 + z_2^{38} + z_2 z_3^3 + z_3 z_4^5$        | Chain + Chain | 3990  | 17748  | $\mathbb{Z}^4 \oplus \mathbb{Z}_{190} \oplus \mathbb{Z}_{38}$    |
| (105,360,755,187,1219)       | $z_0^{25} + z_0 z_1^7 + z_1 z_2^3 + z_2 z_3^{10} + z_3 z_4^2$    | Chain         | 2625  | 5624   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{75}$                            |
| (231,105,812,247,1147)       | $z_0^{11} + z_0 z_1^{22} + z_1 z_2^3 + z_2 z_3^7 + z_3 z_4^2$    | Chain         | 2541  | 5576   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{33} \oplus \mathbb{Z}_3$        |
| (5264,658,105,1489,3013)     | $z_0^2 + z_0 z_1^8 + z_1 z_2^{94} + z_2 z_3^7 + z_3 z_4^3$       | Chain         | 10528 | 22545  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{188}$                           |
| (3635,727,5089,1350,105)     | $z_0^3 + z_0 z_1^{10} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{91}$    | Chain + Cycle | 10905 | 23296  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                           |
| (105,10570,4249,1969,14923)  | $z_0^{303} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{14} + z_3 z_4^2$   | Chain         | 31815 | 67568  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{1515}$                          |
| (2247,107,3317,945,126)      | $z_0^3 + z_0 z_1^{42} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{46}$    | Chain + Cycle | 6741  | 41216  | $\mathbb{Z}^8 \oplus (\mathbb{Z}_3)^4$                           |
| (1720,9030,14405,109,12577)  | $z_0^{22} + z_0 z_1^4 + z_1 z_2^2 + z_2 z_3^{215} + z_3 z_4^3$   | Chain         | 37840 | 75789  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{44}$                            |
| (18245,20836,109,2483,13063) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{311} + z_2 z_3^{22} + z_3 z_4^4$   | BP + Cycle    | 54735 | 109472 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                               |
| (2995,599,1797,490,110)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{12} + z_3 z_4^{50}$    | Chain + Cycle | 5990  | 12600  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                           |
| (4070,110,803,667,2491)      | $z_0^2 + z_0 z_1^{37} + z_1 z_2^{10} + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 8140  | 16947  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{20}$                            |
| (1081,188,111,2647,1379)     | $z_0^5 + z_0 z_1^{23} + z_1 z_2^{47} + z_2 z_3^2 + z_3 z_4^2$    | Chain         | 5405  | 16104  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{235}$                           |
| (289,867,119,112,637)        | $z_0^7 + z_0 z_1^2 + z_2^{17} + z_2 z_3^{17} + z_3 z_4^3$        | Chain + Chain | 2023  | 4752   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{17})^2$                        |
| (112,1792,231,495,1067)      | $z_0^{33} + z_0 z_1^2 + z_2^{16} + z_2 z_3^7 + z_3 z_4^3$        | Chain + Chain | 3696  | 8126   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{48} \oplus \mathbb{Z}_{16}$     |
| (495,2145,770,112,3409)      | $z_0^{14} + z_0 z_1^3 + z_2^9 + z_2 z_3^{55} + z_3 z_4^2$        | Chain + Chain | 6930  | 14587  | $\mathbb{Z}^4 \oplus \mathbb{Z}_6$                               |
| (19425,1554,8103,113,29081)  | $z_0^3 + z_0 z_1^{25} + z_1 z_2^7 + z_2 z_3^{444} + z_3 z_4^2$   | Chain         | 58275 | 233552 | $\mathbb{Z}^4 \oplus \mathbb{Z}_{21}$                            |

| Weights                      | Polynomial   | Type               | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$   |
|------------------------------|--|--------------------|-------|--------|--|
| (39703,26431,2119,11041,113) | $z_0^2 + z_4 z_1^3 + z_1 z_2^{25} + z_2 z_3^7 + z_3 z_4^{605}$ | BP + Cycle         | 79406 | 317625 | $\mathbb{Z}^4 \oplus \mathbb{Z}_2$                           |
| (370,4070,115,1679,2277)     | $z_0^{23} + z_0 z_1^2 + z_2^{74} + z_2 z_3^5 + z_3 z_4^3$      | Chain + Chain      | 8510  | 19512  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{74})^2$                    |
| (12995,115,19435,5424,1017)  | $z_0^3 + z_0 z_1^{226} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{33}$ | Chain + Cycle      | 38985 | 157080 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_3)^3$                       |
| (26105,115,17365,7264,1362)  | $z_0^2 + z_0 z_1^{227} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{33}$ | Chain + Cycle      | 52210 | 209979 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                       |
| (1109,1471,116,247,385)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^{16} + z_2 z_3^{13} + z_3 z_4^8$  | BP + Cycle         | 3327  | 6656   | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (116,2146,1273,285,589)      | $z_0^{38} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^{11} + z_3 z_4^7$  | Chain + Cycle      | 4408  | 9009   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{116}$                       |
| (116,2146,1349,437,361)      | $z_0^{38} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^7 + z_3 z_4^{11}$  | Chain + Cycle      | 4408  | 9009   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{116}$                       |
| (260,910,117,151,643)        | $z_0^8 + z_0 z_1^2 + z_1 z_2^{10} + z_2 z_3^{13} + z_3 z_4^3$  | Chain              | 2080  | 4311   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{80}$                        |
| (3575,715,117,541,2203)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^{55} + z_2 z_3^{13} + z_3 z_4^3$  | Chain              | 7150  | 14841  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{110}$                       |
| (848,7208,5049,2043,117)     | $z_0^{18} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{113}$ | Chain + Cycle      | 15264 | 32205  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{848}$                       |
| (7661,10819,3041,118,1345)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{169} + z_3 z_4^{17}$ | BP + Cycle         | 22983 | 45968  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (119,1547,189,432,927)       | $z_0^{27} + z_0 z_1^2 + z_2^{17} + z_2 z_3^7 + z_3 z_4^3$      | Chain + Chain      | 3213  | 7112   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{51} \oplus \mathbb{Z}_{17}$ |
| (1733,2105,119,254,989)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^{26} + z_2 z_3^{20} + z_3 z_4^5$  | BP + Cycle         | 5199  | 10400  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (376,3008,799,119,2091)      | $z_0^{17} + z_0 z_1^2 + z_2^8 + z_2 z_3^{47} + z_3 z_4^3$      | Chain + Chain      | 6392  | 13662  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_8)^2$                       |
| (2805,495,3960,1037,119)     | $z_0^3 + z_1^{17} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{62}$      | BP + Chain + Cycle | 8415  | 17856  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                       |
| (1761,9392,14909,3757,119)   | $z_0^{17} + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^4 + z_3 z_4^{220}$ | Chain + Cycle      | 29937 | 61600  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{587}$                       |
| (23120,5780,119,2713,14509)  | $z_0^2 + z_0 z_1^4 + z_1 z_2^{340} + z_2 z_3^{17} + z_3 z_4^3$ | Chain              | 46240 | 95193  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{680}$                       |
| (405,120,1175,247,1699)      | $z_0^9 + z_0 z_1^{27} + z_1 z_2^3 + z_2 z_3^{10} + z_3 z_4^2$  | Chain              | 3645  | 7784   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{27}$                        |
| (2405,370,120,469,1447)      | $z_0^2 + z_1^{13} + z_1 z_2^{37} + z_2 z_3^{10} + z_3 z_4^3$   | BP + Chain         | 4810  | 10089  | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                           |
| (2688,1344,1051,173,121)     | $z_0^2 + z_1^4 + z_4 z_2^5 + z_2 z_3^{25} + z_3 z_4^{43}$      | BP + Cycle         | 5376  | 16125  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2688}$                      |
| (663,408,1853,121,2923)      | $z_0^9 + z_0 z_1^{13} + z_1 z_2^3 + z_2 z_3^{34} + z_3 z_4^2$  | Chain              | 5967  | 12176  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{27}$                        |
| (2211,2948,121,497,5279)     | $z_0^5 + z_0 z_1^3 + z_1 z_2^{67} + z_2 z_3^{22} + z_3 z_4^2$  | Chain              | 11055 | 23104  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{335}$                       |
| (1309,121,14993,8211,5474)   | $z_0^{23} + z_0 z_1^{238} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^4$ | Chain + Cycle      | 30107 | 65952  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{23})^2$                    |
| (29029,15834,10556,2519,121) | $z_0^2 + z_2 z_1^3 + z_1 z_2^4 + z_4 z_3^{23} + z_3 z_4^{459}$ | BP + Cycle + Cycle | 58058 | 126684 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                       |
| (14701,122,9760,4097,723)    | $z_0^2 + z_1^{241} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{35}$     | BP + Chain + Cycle | 29402 | 118335 | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                       |
| (5933,6763,124,707,4273)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^{89} + z_2 z_3^{25} + z_3 z_4^4$  | BP + Cycle         | 17799 | 35600  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (9893,14776,2129,2755,127)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^7 + z_2 z_3^{10} + z_3 z_4^{212}$ | BP + Cycle         | 29679 | 59360  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (11375,3250,2375,127,16999)  | $z_0^3 + z_0 z_1^7 + z_1 z_2^{13} + z_2 z_3^{250} + z_3 z_4^2$ | Chain              | 34125 | 68504  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{39}$                        |
| (17570,2510,3263,127,11671)  | $z_0^2 + z_0 z_1^7 + z_1 z_2^{10} + z_2 z_3^{251} + z_3 z_4^3$ | Chain              | 35140 | 70407  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{20}$                        |
| (24365,16201,4647,3391,127)  | $z_0^2 + z_4 z_1^3 + z_1 z_2^7 + z_2 z_3^{13} + z_3 z_4^{357}$ | BP + Cycle         | 48730 | 97461  | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                           |
| (1305,145,130,757,1579)      | $z_0^3 + z_0 z_1^{18} + z_1 z_2^{29} + z_2 z_3^5 + z_3 z_4^2$  | Chain              | 3915  | 9344   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{87} \oplus \mathbb{Z}_{29}$ |
| (2095,419,1257,290,130)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{14} + z_3 z_4^{30}$  | Chain + Cycle      | 4190  | 8820   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                       |
| (4921,1406,148,131,3237)     | $z_0^2 + z_1^7 + z_1 z_2^{57} + z_2 z_3^{74} + z_3 z_4^3$      | BP + Chain         | 9842  | 59445  | $\mathbb{Z}^6 \oplus (\mathbb{Z}_2)^3$                       |
| (1613,1957,131,214,925)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^{22} + z_2 z_3^{22} + z_3 z_4^5$  | BP + Cycle         | 4839  | 9680   | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |
| (7661,8635,844,131,5713)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^{17} + z_2 z_3^{169} + z_3 z_4^4$ | BP + Cycle         | 22983 | 45968  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                           |



| Weights                      | Polynomial   | Type          | $d$   | $\mu$  | $H_3(M, \mathbb{Z})$  |
|------------------------------|--|---------------|-------|--------|---|
| (10733,16034,3233,2069,131)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^5 + z_2 z_3^{14} + z_3 z_4^{230}$   | BP + Cycle    | 32199 | 64400  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (18130,3626,2331,131,12043)  | $z_0^2 + z_0 z_1^5 + z_1 z_2^{14} + z_2 z_3^{259} + z_3 z_4^3$   | Chain         | 36260 | 72651  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{28}$                         |
| (12969,2358,4061,133,19387)  | $z_0^3 + z_0 z_1^{11} + z_1 z_2^9 + z_2 z_3^{262} + z_3 z_4^2$   | Chain         | 38907 | 78080  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{27}$                         |
| (133,23275,9994,3156,33401)  | $z_0^{526} + z_0 z_1^3 + z_2^7 + z_2 z_3^{19} + z_3 z_4^2$       | Chain + Chain | 69958 | 146367 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_7)^2$ |
| (27101,18023,3289,5657,133)  | $z_0^2 + z_4 z_1^3 + z_1 z_2^{11} + z_2 z_3^9 + z_3 z_4^{365}$   | BP + Cycle    | 54202 | 108405 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (30191,133,12920,4087,43243) | $z_0^3 + z_0 z_1^{454} + z_1 z_2^7 + z_2 z_3^{19} + z_3 z_4^2$   | Chain         | 90573 | 189320 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (861,287,1148,153,135)       | $z_0^3 + z_0 z_1^6 + z_1 z_2^2 + z_4 z_3^{16} + z_3 z_4^{18}$    | Chain + Cycle | 2583  | 5760   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (135,630,155,187,919)        | $z_0^{15} + z_0 z_1^3 + z_1 z_2^9 + z_2 z_3^{10} + z_3 z_4^2$    | Chain         | 2025  | 4424   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{135}$                        |
| (290,3770,135,1539,2097)     | $z_0^{27} + z_0 z_1^2 + z_2^{58} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain | 7830  | 17836  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{174} \oplus \mathbb{Z}_{58}$ |
| (8145,135,18960,2537,27239)  | $z_0^7 + z_0 z_1^{362} + z_1 z_2^3 + z_2 z_3^{15} + z_3 z_4^2$   | Chain         | 57015 | 119104 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$     |
| (24090,3212,34529,10305,135) | $z_0^3 + z_0 z_1^{15} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{459}$   | Chain + Cycle | 72270 | 151011 | $\mathbb{Z}^2 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^2$    |
| (136,4488,1139,469,2881)     | $z_0^{67} + z_0 z_1^2 + z_2^8 + z_2 z_3^{17} + z_3 z_4^3$        | Chain + Chain | 9112  | 18972  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_8)^2$                        |
| (286,198,1331,139,907)       | $z_0^{10} + z_0 z_1^{13} + z_1 z_2^2 + z_2 z_3^{11} + z_3 z_4^3$ | Chain         | 2860  | 5859   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{20}$                         |
| (440,4180,1155,139,2887)     | $z_0^{20} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{55} + z_3 z_4^3$    | Chain         | 8800  | 17739  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{80}$                         |
| (10450,3300,34925,139,24337) | $z_0^7 + z_0 z_1^{19} + z_1 z_2^2 + z_2 z_3^{275} + z_3 z_4^3$   | Chain         | 73150 | 146439 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14}$                         |
| (31565,45211,139,13508,4273) | $z_0^3 + z_4 z_1^2 + z_1 z_2^{356} + z_2 z_3^7 + z_3 z_4^{19}$   | BP + Cycle    | 94695 | 189392 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (140,150,1045,239,667)       | $z_0^{16} + z_0 z_1^{14} + z_1 z_2^2 + z_2 z_3^5 + z_3 z_4^3$    | Chain         | 2240  | 4719   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{32}$                         |
| (1945,389,1167,250,140)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{15} + z_3 z_4^{26}$    | Chain + Cycle | 3890  | 8190   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (140,14420,1035,5589,7797)   | $z_0^{207} + z_0 z_1^2 + z_2^{28} + z_2 z_3^5 + z_3 z_4^3$       | Chain + Chain | 28980 | 63856  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{84} \oplus \mathbb{Z}_{28}$  |
| (140,15330,1105,5939,8287)   | $z_0^{220} + z_0 z_1^2 + z_1 z_2^{14} + z_2 z_3^5 + z_3 z_4^3$   | Chain         | 30800 | 67539  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{3080}$                       |
| (28280,140,2015,10909,15217) | $z_0^2 + z_0 z_1^{202} + z_1 z_2^{28} + z_2 z_3^5 + z_3 z_4^3$   | Chain         | 56560 | 124029 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{56}$                         |
| (1925,275,143,337,1171)      | $z_0^2 + z_0 z_1^7 + z_1 z_2^{25} + z_2 z_3^{11} + z_3 z_4^3$    | Chain         | 3850  | 8037   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{50}$                         |
| (145,10295,715,4004,5577)    | $z_0^{143} + z_0 z_1^2 + z_2^{29} + z_2 z_3^5 + z_3 z_4^3$       | Chain + Chain | 20735 | 45792  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{29})^2$                     |
| (7293,2431,1144,145,10867)   | $z_0^3 + z_0 z_1^6 + z_1 z_2^{17} + z_2 z_3^{143} + z_3 z_4^2$   | Chain         | 21879 | 44048  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{51} \oplus \mathbb{Z}_{17}$  |
| (17453,25057,146,7459,2245)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^{187} + z_2 z_3^7 + z_3 z_4^{20}$   | BP + Cycle    | 52359 | 104720 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (12299,147,5250,1507,17695)  | $z_0^3 + z_1^{251} + z_1 z_2^7 + z_2 z_3^{21} + z_3 z_4^2$       | BP + Chain    | 36897 | 76808  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (189,693,1218,149,2099)      | $z_0^{23} + z_0 z_1^6 + z_1 z_2^3 + z_2 z_3^{21} + z_3 z_4^2$    | Chain         | 4347  | 8992   | $\mathbb{Z}^2 \oplus \mathbb{Z}_{69} \oplus \mathbb{Z}_3$     |
| (2205,16170,6909,149,25283)  | $z_0^{23} + z_0 z_1^3 + z_1 z_2^5 + z_2 z_3^{294} + z_3 z_4^2$   | Chain         | 50715 | 101728 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{115}$                        |
| (49421,31517,13465,149,4291) | $z_0^2 + z_4 z_1^3 + z_1 z_2^5 + z_2 z_3^{573} + z_3 z_4^{23}$   | BP + Cycle    | 98842 | 197685 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (22499,151,33673,8046,3129)  | $z_0^3 + z_0 z_1^{298} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{19}$   | Chain + Cycle | 67497 | 136192 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (45149,151,30049,10764,4186) | $z_0^2 + z_0 z_1^{299} + z_1 z_2^3 + z_4 z_3^8 + z_3 z_4^{19}$   | Chain + Cycle | 90298 | 181944 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (152,3344,855,315,2175)      | $z_0^{45} + z_0 z_1^2 + z_2^8 + z_2 z_3^{19} + z_3 z_4^3$        | Chain + Chain | 6840  | 14306  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{24} \oplus \mathbb{Z}_8$     |
| (152,4180,1083,391,2707)     | $z_0^{56} + z_0 z_1^2 + z_1 z_2^4 + z_2 z_3^{19} + z_3 z_4^3$    | Chain         | 8512  | 17415  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{224}$                        |
| (5885,535,3745,1452,154)     | $z_0^2 + z_0 z_1^{11} + z_1 z_2^3 + z_4 z_3^8 + z_3 z_4^{67}$    | Chain + Cycle | 11770 | 24120  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (3355,915,11285,7777,154)    | $z_0^7 + z_0 z_1^{22} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{102}$   | Chain + Cycle | 23485 | 48960  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_7)^2$                        |

| Weights                      | Polynomial   | Type               | $d$    | $\mu$  | $H_3(M, \mathbb{Z})$  |
|------------------------------|--|--------------------|--------|--------|---|
| (250,3750,155,1519,2077)     | $z_0^{31} + z_0 z_1^2 + z_2^{50} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain      | 7750   | 17568  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{50})^2$                     |
| (1395,155,2015,324,297)      | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^{12} + z_3 z_4^{13}$ | Chain + Cycle      | 4185   | 8736   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (7809,10412,19445,1225,155)  | $z_0^5 + z_0 z_1^3 + z_4 z_2^2 + z_2 z_3^{16} + z_3 z_4^{244}$   | Chain + Cycle      | 39045  | 85888  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{2603}$                       |
| (14549,21746,1991,5207,155)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^{11} + z_2 z_3^8 + z_3 z_4^{248}$   | BP + Cycle         | 43647  | 87296  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (32000,2000,155,12769,17077) | $z_0^2 + z_0 z_1^{16} + z_1 z_2^{400} + z_2 z_3^5 + z_3 z_4^3$   | Chain              | 64000  | 140769 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{800}$                        |
| (27016,2456,6447,155,17959)  | $z_0^2 + z_0 z_1^{11} + z_1 z_2^8 + z_2 z_3^{307} + z_3 z_4^3$   | Chain              | 54032  | 108219 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{16}$                         |
| (8321,159,12402,2983,1099)   | $z_0^3 + z_1^{157} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{20}$       | BP + Chain + Cycle | 24963  | 50560  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (160,6240,395,2449,3397)     | $z_0^{79} + z_0 z_1^2 + z_2^{32} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain      | 12640  | 28080  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{32})^2$                     |
| (3557,5107,1391,160,457)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{58} + z_3 z_4^{23}$    | BP + Cycle         | 10671  | 21344  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (232,2552,667,161,1725)      | $z_0^{23} + z_0 z_1^2 + z_2^8 + z_2 z_3^{29} + z_3 z_4^3$        | Chain + Chain      | 5336   | 11304  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_8)^2$                        |
| (4669,161,3059,986,464)      | $z_0^2 + z_0 z_1^{29} + z_1 z_2^3 + z_4 z_3^9 + z_3 z_4^{18}$    | Chain + Cycle      | 9338   | 18954  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (8855,161,3772,991,12787)    | $z_0^3 + z_0 z_1^{110} + z_1 z_2^7 + z_2 z_3^{23} + z_3 z_4^2$   | Chain              | 26565  | 55112  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (749,9737,2889,162,6687)     | $z_0^{27} + z_0 z_1^2 + z_2^7 + z_2 z_3^{107} + z_3 z_4^3$       | Chain + Chain      | 20223  | 42112  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (8685,965,12545,3699,162)    | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{138}$   | Chain + Cycle      | 26055  | 54096  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (2665,1722,164,455,325)      | $z_0^2 + z_2 z_1^3 + z_1 z_2^{22} + z_4 z_3^{11} + z_3 z_4^{15}$ | BP + Cycle + Cycle | 5330   | 10890  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (1935,2580,165,317,4679)     | $z_0^5 + z_0 z_1^3 + z_1 z_2^{43} + z_2 z_3^{30} + z_3 z_4^2$    | Chain              | 9675   | 19984  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{215}$                        |
| (2453,3518,167,899,323)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^{23} + z_2 z_3^8 + z_3 z_4^{20}$    | BP + Cycle         | 7359   | 14720  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (5511,167,8183,1980,693)     | $z_0^3 + z_0 z_1^{66} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{21}$    | Chain + Cycle      | 16533  | 33600  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (11385,15180,1815,167,28379) | $z_0^5 + z_0 z_1^3 + z_1 z_2^{23} + z_2 z_3^{330} + z_3 z_4^2$   | Chain              | 56925  | 114184 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{115}$                        |
| (49421,26369,3151,167,19735) | $z_0^2 + z_4 z_1^3 + z_1 z_2^{23} + z_2 z_3^{573} + z_3 z_4^5$   | BP + Cycle         | 98842  | 197685 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (18245,27283,6863,2176,169)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{22} + z_3 z_4^{311}$   | BP + Cycle         | 54735  | 109472 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (29480,7370,2345,169,19597)  | $z_0^2 + z_0 z_1^4 + z_1 z_2^{22} + z_2 z_3^{335} + z_3 z_4^3$   | Chain              | 58960  | 118089 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{44}$                         |
| (1795,359,1077,190,170)      | $z_0^2 + z_0 z_1^5 + z_1 z_2^3 + z_4 z_3^{18} + z_3 z_4^{20}$    | Chain + Cycle      | 3590   | 7560   | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (170,5270,315,2079,2877)     | $z_0^{63} + z_0 z_1^2 + z_2^{34} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain      | 10710  | 23872  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{102} \oplus \mathbb{Z}_{34}$ |
| (1901,1177,175,279,271)      | $z_0^2 + z_4 z_1^3 + z_1 z_2^{15} + z_2 z_3^{13} + z_3 z_4^{13}$ | BP + Cycle         | 3802   | 7605   | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (175,45325,12975,3114,29237) | $z_0^{519} + z_0 z_1^2 + z_2^7 + z_2 z_3^{25} + z_3 z_4^3$       | Chain + Chain      | 90825  | 185120 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (78575,175,22425,5389,50587) | $z_0^2 + z_0 z_1^{449} + z_1 z_2^7 + z_2 z_3^{25} + z_3 z_4^3$   | Chain              | 157150 | 319689 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14}$                         |
| (10325,177,36049,23275,2450) | $z_0^7 + z_0 z_1^{350} + z_1 z_2^2 + z_4 z_3^3 + z_3 z_4^{20}$   | Chain + Cycle      | 72275  | 147360 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_7)^2$                        |
| (62245,40090,4220,17759,177) | $z_0^2 + z_2 z_1^3 + z_1 z_2^{20} + z_4 z_3^7 + z_3 z_4^{603}$   | BP + Cycle + Cycle | 124490 | 253260 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (3557,4024,289,179,2623)     | $z_0^3 + z_4 z_1^2 + z_1 z_2^{23} + z_2 z_3^{58} + z_3 z_4^4$    | BP + Cycle         | 10671  | 21344  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (42497,182,12116,2803,27397) | $z_0^2 + z_1^{467} + z_1 z_2^7 + z_2 z_3^{26} + z_3 z_4^3$       | BP + Chain         | 84994  | 172791 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (9065,185,485,3529,4867)     | $z_0^2 + z_0 z_1^{49} + z_1 z_2^{37} + z_2 z_3^5 + z_3 z_4^3$    | Chain              | 18130  | 39789  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{74}$                         |
| (7137,1647,16104,185,24887)  | $z_0^7 + z_0 z_1^{26} + z_1 z_2^3 + z_2 z_3^{183} + z_3 z_4^2$   | Chain              | 49959  | 100288 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$     |
| (188,5734,3131,341,2263)     | $z_0^{62} + z_0 z_1^2 + z_4 z_3^2 + z_2 z_3^{25} + z_3 z_4^5$    | Chain + Cycle      | 11656  | 23625  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{188}$                        |
| (188,5734,3751,1581,403)     | $z_0^{62} + z_0 z_1^2 + z_4 z_2^3 + z_2 z_3^5 + z_3 z_4^{25}$    | Chain + Cycle      | 11656  | 23625  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{188}$                        |

| Weights                       | Polynomial   | Type               | $d$    | $\mu$  | $H_3(M, \mathbb{Z})$  |
|-------------------------------|--|--------------------|--------|--------|---|
| (200,2600,675,189,1737)       | $z_0^{27} + z_0 z_1^2 + z_2^8 + z_2 z_3^{25} + z_3 z_4^3$        | Chain + Chain      | 5400   | 11396  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{24} \oplus \mathbb{Z}_8$     |
| (2367,263,3419,864,189)       | $z_0^3 + z_0 z_1^{18} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{33}$    | Chain + Cycle      | 7101   | 14784  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (190,4370,235,1739,2397)      | $z_0^{47} + z_0 z_1^2 + z_2^{38} + z_2 z_3^5 + z_3 z_4^3$        | Chain + Chain      | 8930   | 20016  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_{38})^2$                     |
| (1733,2504,539,233,191)       | $z_0^3 + z_4 z_1^2 + z_1 z_2^5 + z_2 z_3^{20} + z_3 z_4^{26}$    | BP + Cycle         | 5199   | 10400  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (2453,3539,191,896,281)       | $z_0^3 + z_4 z_1^2 + z_1 z_2^{20} + z_2 z_3^8 + z_3 z_4^{23}$    | BP + Cycle         | 7359   | 14720  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (1109,1567,220,239,193)       | $z_0^3 + z_4 z_1^2 + z_1 z_2^8 + z_2 z_3^{13} + z_3 z_4^{16}$    | BP + Cycle         | 3327   | 6656   | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (5933,8803,2249,622,193)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^4 + z_2 z_3^{25} + z_3 z_4^{89}$    | BP + Cycle         | 17799  | 35600  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (1613,2314,505,197,211)       | $z_0^3 + z_4 z_1^2 + z_1 z_2^5 + z_2 z_3^{22} + z_3 z_4^{22}$    | BP + Cycle         | 4839   | 9680   | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (3349,197,2167,714,272)       | $z_0^2 + z_0 z_1^{17} + z_1 z_2^3 + z_4 z_3^9 + z_3 z_4^{22}$    | Chain + Cycle      | 6698   | 13662  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (3159,4212,429,197,7799)      | $z_0^5 + z_0 z_1^3 + z_1 z_2^{27} + z_2 z_3^{78} + z_3 z_4^2$    | Chain              | 15795  | 31984  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{135}$                        |
| (7469,3201,198,673,10867)     | $z_0^3 + z_1^7 + z_1 z_2^{97} + z_2 z_3^{33} + z_3 z_4^2$        | BP + Chain         | 22407  | 46160  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (1901,1189,201,277,235)       | $z_0^2 + z_4 z_1^3 + z_1 z_2^{13} + z_2 z_3^{13} + z_3 z_4^{15}$ | BP + Cycle         | 3802   | 7605   | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (707,7777,3434,204,11917)     | $z_0^{34} + z_0 z_1^3 + z_2^7 + z_2 z_3^{101} + z_3 z_4^2$       | Chain + Chain      | 24038  | 49197  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14} \oplus (\mathbb{Z}_7)^2$ |
| (20689,1217,13387,5882,204)   | $z_0^2 + z_0 z_1^{17} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{174}$   | Chain + Cycle      | 41378  | 84042  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (23681,6766,204,1387,15325)   | $z_0^2 + z_1^7 + z_1 z_2^{199} + z_2 z_3^{34} + z_3 z_4^3$       | BP + Chain         | 47362  | 96111  | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (2829,207,4140,1025,287)      | $z_0^3 + z_1^{41} + z_1 z_2^2 + z_4 z_3^8 + z_3 z_4^{26}$        | BP + Chain + Cycle | 8487   | 17472  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (7955,215,365,3109,4267)      | $z_0^2 + z_0 z_1^{37} + z_1 z_2^{43} + z_2 z_3^5 + z_3 z_4^3$    | Chain              | 15910  | 34929  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{86}$                         |
| (6365,9283,223,2696,529)      | $z_0^3 + z_4 z_1^2 + z_1 z_2^{44} + z_2 z_3^7 + z_3 z_4^{31}$    | BP + Cycle         | 19095  | 38192  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (49283,223,73813,20553,3978)  | $z_0^3 + z_0 z_1^{442} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{32}$   | Chain + Cycle      | 147849 | 297472 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_3)^2$                        |
| (57239,4641,23868,223,85747)  | $z_0^3 + z_1^{37} + z_1 z_2^7 + z_2 z_3^{663} + z_3 z_4^2$       | BP + Chain         | 171717 | 343880 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (98789,223,65785,27466,5316)  | $z_0^2 + z_0 z_1^{443} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{32}$   | Chain + Cycle      | 197578 | 397152 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (114737,6202,31896,223,76417) | $z_0^2 + z_1^{37} + z_1 z_2^7 + z_2 z_3^{886} + z_3 z_4^3$       | BP + Chain         | 229474 | 459171 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (2325,3100,275,227,5699)      | $z_0^5 + z_0 z_1^3 + z_1 z_2^{31} + z_2 z_3^{50} + z_3 z_4^2$    | Chain              | 11625  | 23704  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{155}$                        |
| (31565,47233,2498,13171,229)  | $z_0^3 + z_4 z_1^2 + z_1 z_2^{19} + z_2 z_3^7 + z_3 z_4^{356}$   | BP + Cycle         | 94695  | 189392 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (60515,3185,16835,229,40267)  | $z_0^2 + z_0 z_1^{19} + z_1 z_2^7 + z_2 z_3^{455} + z_3 z_4^3$   | Chain              | 121030 | 242289 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14}$                         |
| (6083,231,2574,475,8887)      | $z_0^3 + z_1^{79} + z_1 z_2^7 + z_2 z_3^{33} + z_3 z_4^2$        | BP + Chain         | 18249  | 37448  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (21203,1631,8854,235,31687)   | $z_0^3 + z_0 z_1^{26} + z_1 z_2^7 + z_2 z_3^{233} + z_3 z_4^2$   | Chain              | 63609  | 127688 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$     |
| (17453,26059,1315,7292,241)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^{20} + z_2 z_3^7 + z_3 z_4^{187}$   | BP + Cycle         | 52359  | 104720 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (2025,243,4644,353,6911)      | $z_0^7 + z_0 z_1^{50} + z_1 z_2^3 + z_2 z_3^{27} + z_3 z_4^2$    | Chain              | 14175  | 29056  | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_3$     |
| (14762,244,22021,6171,1089)   | $z_0^3 + z_0 z_1^{121} + z_1 z_2^2 + z_4 z_3^7 + z_3 z_4^{35}$   | Chain + Cycle      | 44286  | 89425  | $\mathbb{Z}^2 \oplus \mathbb{Z}_6 \oplus (\mathbb{Z}_3)^2$    |
| (29585,19642,244,8245,1455)   | $z_0^2 + z_2 z_1^3 + z_1 z_2^{162} + z_4 z_3^7 + z_3 z_4^{35}$   | BP + Cycle + Cycle | 59170  | 119070 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |
| (14063,1029,5880,247,20971)   | $z_0^3 + z_1^{41} + z_1 z_2^7 + z_2 z_3^{147} + z_3 z_4^2$       | BP + Chain         | 42189  | 84872  | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (65009,27861,4518,253,97387)  | $z_0^3 + z_1^7 + z_1 z_2^{37} + z_2 z_3^{753} + z_3 z_4^2$       | BP + Chain         | 195027 | 390560 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                            |
| (130277,37222,6036,253,86767) | $z_0^2 + z_1^7 + z_1 z_2^{37} + z_2 z_3^{1006} + z_3 z_4^3$      | BP + Chain         | 260554 | 521361 | $\mathbb{Z}^2 \oplus \mathbb{Z}_2$                            |
| (12905,8410,580,3649,267)     | $z_0^2 + z_2 z_1^3 + z_1 z_2^{30} + z_4 z_3^7 + z_3 z_4^{83}$    | BP + Cycle + Cycle | 25810  | 52290  | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                        |

| Weights                    | Polynomial  | Type               | $d$   | $\mu$ | $H_3(M, \mathbb{Z})$                                      |
|----------------------------|---|--------------------|-------|-------|---|
| (2162,276,7429,335,4933)   | $z_0^7 + z_0 z_1^{47} + z_1 z_2^2 + z_2 z_3^{23} + z_3 z_4^3$ | Chain              | 15134 | 30603 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{14}$                     |
| (12445,8122,524,3515,285)  | $z_0^2 + z_2 z_1^3 + z_1 z_2^{32} + z_4 z_3^7 + z_3 z_4^{75}$ | BP + Cycle + Cycle | 24890 | 50400 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                    |
| (15529,293,10255,4346,636) | $z_0^2 + z_0 z_1^{53} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{42}$ | Chain + Cycle      | 31058 | 62622 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                    |
| (7259,427,3050,307,10735)  | $z_0^3 + z_0 z_1^{34} + z_1 z_2^7 + z_2 z_3^{61} + z_3 z_4^2$ | Chain              | 21777 | 44168 | $\mathbb{Z}^2 \oplus \mathbb{Z}_{21} \oplus \mathbb{Z}_7$ |
| (14429,307,9517,4042,564)  | $z_0^2 + z_0 z_1^{47} + z_1 z_2^3 + z_4 z_3^7 + z_3 z_4^{44}$ | Chain + Cycle      | 28858 | 58212 | $\mathbb{Z}^4 \oplus (\mathbb{Z}_2)^2$                    |
| (6365,9361,314,2683,373)   | $z_0^3 + z_4 z_1^2 + z_1 z_2^{31} + z_2 z_3^7 + z_3 z_4^{44}$ | BP + Cycle         | 19095 | 38192 | $\mathbb{Z}^2 \oplus \mathbb{Z}_3$                        |