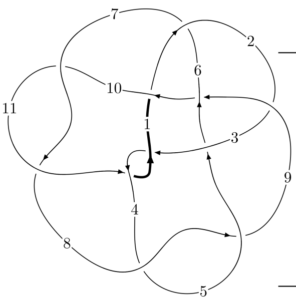
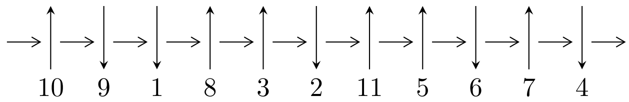
# $11a_{305}$ $(K11a_{305})$




A knot diagram[1]

**Linearized knot diagam**




**Solving Sequence**

$$4,8 \xrightarrow[c_4]{} 5 \xrightarrow[c_8]{} 9,11 \xrightarrow[c_{11}]{} 1 \xrightarrow[c_3]{} 3 \xrightarrow[c_5]{} 6 \xrightarrow[c_2]{} 2 \xrightarrow[c_7]{} 7 \xrightarrow[c_{10}]{} 10 \twoheadrightarrow c_1, c_6, c_9$$

**Ideals for irreducible components[2] of $X_{\mathbf{par}}$**

$$\begin{aligned}
I_1^u = \langle & 128458353823909u^{26} + 129748020078821u^{25} + \cdots + 714554391122482b - 307532868153053,\\
& a - 1,\ u^{27} - 15u^{25} + \cdots + 8u + 1\rangle\\
I_2^u = \langle & 6.23874 \times 10^{124}u^{53} + 1.39776 \times 10^{125}u^{52} + \cdots + 4.41978 \times 10^{127}b + 4.69540 \times 10^{127},\\
& 5.28258 \times 10^{127}u^{53} - 1.64275 \times 10^{127}u^{52} + \cdots + 8.57438 \times 10^{129}a + 7.90543 \times 10^{128},\\
& 2u^{54} - 3u^{53} + \cdots + 95u - 97\rangle\\
I_3^u = \langle & 2u^7 - 3u^6 - 5u^5 + 6u^4 + 10u^3 - 12u^2 + b - u + 4,\ a + 1,\ u^8 - u^7 - 3u^6 + 2u^5 + 6u^4 - 4u^3 - 3u^2 + 2u + 1\rangle\\
I_4^u = \langle & u^2 + b,\ a + 1,\ u^3 - u - 1\rangle\\
I_5^u = \langle & b + 1,\ a - 2,\ 2u - 1\rangle\\
I_6^u = \langle & b + 1,\ 2a - 1,\ u + 1\rangle\\
I_7^u = \langle & b + 1,\ a + 1,\ u + 1\rangle
\end{aligned}$$

* 7 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 95 representations.

[1] The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2] All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

**I.** $\boldsymbol{I_1^u = \langle 1.28 \times 10^{14}u^{26} + 1.30 \times 10^{14}u^{25} + \cdots + 7.15 \times 10^{13}b - 3.08 \times 10^{14},\ a - 1,\ u^{27} - 15u^{25} + \cdots + 8u + 1\rangle}$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -1.79774u^{26} - 1.81579u^{25} + \cdots + 35.4655u + 4.30384 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.79774u^{26} + 1.81579u^{25} + \cdots - 35.4655u - 3.30384 \\ -1.79774u^{26} - 1.81579u^{25} + \cdots + 35.4655u + 4.30384 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2.79486u^{26} + 3.00477u^{25} + \cdots - 62.0548u - 7.92538 \\ -0.997121u^{26} - 1.18898u^{25} + \cdots + 26.5893u + 4.62154 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -3.74472u^{26} - 3.04658u^{25} + \cdots + 45.3634u + 2.81681 \\ 0.625459u^{26} + 1.07598u^{25} + \cdots - 25.4593u - 2.82772 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.08283u^{26} + 1.65073u^{25} + \cdots - 41.4105u - 5.52428 \\ -1.60344u^{26} - 1.67881u^{25} + \cdots + 34.6892u + 5.66859 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ 1.81579u^{26} + 1.36688u^{25} + \cdots - 17.6858u - 1.79774 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -0.430865u^{26} - 0.712953u^{25} + \cdots + 19.1414u + 2.48805 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -0.430865u^{26} - 0.712953u^{25} + \cdots + 19.1414u + 2.48805 \end{pmatrix}$$

**(ii) Obstruction class** $= -1$

**(iii) Cusp Shapes**
$= \frac{110984790327346}{11909239853747}u^{26} + \frac{77302583361155}{11909239853747}u^{25} + \cdots - \frac{911733716325243}{11909239853747}u - \frac{123671657013453}{11909239853747}$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $u^{27} + 2u^{26} + \cdots + 8u + 2$ |
| $c_2, c_6$ | $u^{27} + 7u^{25} + \cdots - 3u + 1$ |
| $c_3, c_{11}$ | $u^{27} - 10u^{26} + \cdots + 172u - 16$ |
| $c_4, c_7, c_8$ $c_{10}$ | $u^{27} - 15u^{25} + \cdots + 8u + 1$ |
| $c_9$ | $u^{27} + 13u^{26} + \cdots - 28u - 4$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $y^{27} - 4y^{26} + \cdots + 84y - 4$ |
| $c_2, c_6$ | $y^{27} + 14y^{26} + \cdots - 15y - 1$ |
| $c_3, c_{11}$ | $y^{27} + 16y^{26} + \cdots + 6320y - 256$ |
| $c_4, c_7, c_8$ $c_{10}$ | $y^{27} - 30y^{26} + \cdots + 34y - 1$ |
| $c_9$ | $y^{27} - 3y^{26} + \cdots + 56y - 16$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_1^u$ | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 0.106573 + 0.849360I$<br>$a = 1.00000$<br>$b = 0.489173 - 0.963829I$ | $-0.11341 + 6.75527I$ | $1.42209 - 7.76802I$ |
| $u = 0.106573 - 0.849360I$<br>$a = 1.00000$<br>$b = 0.489173 + 0.963829I$ | $-0.11341 - 6.75527I$ | $1.42209 + 7.76802I$ |
| $u = -0.159654 + 0.781613I$<br>$a = 1.00000$<br>$b = 0.591660 + 0.371074I$ | $-1.77335 + 2.61294I$ | $-2.81593 - 2.10661I$ |
| $u = -0.159654 - 0.781613I$<br>$a = 1.00000$<br>$b = 0.591660 - 0.371074I$ | $-1.77335 - 2.61294I$ | $-2.81593 + 2.10661I$ |
| $u = 0.784543$<br>$a = 1.00000$<br>$b = -0.832565$ | $0.365696$ | $11.8450$ |
| $u = 0.779651$<br>$a = 1.00000$<br>$b = 0.197132$ | $1.29249$ | $7.75610$ |
| $u = 1.221600 + 0.595583I$<br>$a = 1.00000$<br>$b = 0.114881 - 1.150240I$ | $4.22227 + 1.28214I$ | $0. - 2.91907I$ |
| $u = 1.221600 - 0.595583I$<br>$a = 1.00000$<br>$b = 0.114881 + 1.150240I$ | $4.22227 - 1.28214I$ | $0. + 2.91907I$ |
| $u = 1.356240 + 0.153177I$<br>$a = 1.00000$<br>$b = 0.57541 - 1.70357I$ | $11.55650 - 2.44905I$ | $8.88456 + 3.60972I$ |
| $u = 1.356240 - 0.153177I$<br>$a = 1.00000$<br>$b = 0.57541 + 1.70357I$ | $11.55650 + 2.44905I$ | $8.88456 - 3.60972I$ |

| Solutions to $I_1^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 1.39961 + 0.22669I$<br>$a = 1.00000$<br>$b = 1.44138 - 0.06147I$ | $6.25875 + 10.21720I$ | $5.61375 - 6.77548I$ |
| $u = 1.39961 - 0.22669I$<br>$a = 1.00000$<br>$b = 1.44138 + 0.06147I$ | $6.25875 - 10.21720I$ | $5.61375 + 6.77548I$ |
| $u = -1.40289 + 0.20762I$<br>$a = 1.00000$<br>$b = 1.029610 + 0.112240I$ | $7.68644 - 3.38302I$ | $7.90859 + 3.21661I$ |
| $u = -1.40289 - 0.20762I$<br>$a = 1.00000$<br>$b = 1.029610 - 0.112240I$ | $7.68644 + 3.38302I$ | $7.90859 - 3.21661I$ |
| $u = 0.096377 + 0.573318I$<br>$a = 1.00000$<br>$b = 0.076636 + 0.947154I$ | $2.31133 + 1.38881I$ | $5.27810 - 4.63773I$ |
| $u = 0.096377 - 0.573318I$<br>$a = 1.00000$<br>$b = 0.076636 - 0.947154I$ | $2.31133 - 1.38881I$ | $5.27810 + 4.63773I$ |
| $u = -1.48387 + 0.14705I$<br>$a = 1.00000$<br>$b = 0.72466 + 1.31085I$ | $10.94040 - 2.59348I$ | $9.36617 + 2.06057I$ |
| $u = -1.48387 - 0.14705I$<br>$a = 1.00000$<br>$b = 0.72466 - 1.31085I$ | $10.94040 + 2.59348I$ | $9.36617 - 2.06057I$ |
| $u = -1.52352 + 0.28324I$<br>$a = 1.00000$<br>$b = 0.280011 + 1.186500I$ | $10.59150 - 1.56799I$ | $10.06893 + 0.I$ |
| $u = -1.52352 - 0.28324I$<br>$a = 1.00000$<br>$b = 0.280011 - 1.186500I$ | $10.59150 + 1.56799I$ | $10.06893 + 0.I$ |

| Solutions to $I_1^u$ | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = -0.371492$<br>$a = \quad 1.00000$<br>$b = -0.808679$ | $-1.55906$ | $-7.62210$ |
| $u = \quad 1.60437 + 0.47781I$<br>$a = \quad 1.00000$<br>$b = \quad 0.59054 - 1.51467I$ | $11.3568 + 17.2512I$ | $6.49370 - 8.44917I$ |
| $u = \quad 1.60437 - 0.47781I$<br>$a = \quad 1.00000$<br>$b = \quad 0.59054 + 1.51467I$ | $11.3568 - 17.2512I$ | $6.49370 + 8.44917I$ |
| $u = -1.61375 + 0.50385I$<br>$a = \quad 1.00000$<br>$b = \quad 0.47653 + 1.39767I$ | $12.4277 - 8.7733I$ | $10.26210 + 6.04290I$ |
| $u = -1.61375 - 0.50385I$<br>$a = \quad 1.00000$<br>$b = \quad 0.47653 - 1.39767I$ | $12.4277 + 8.7733I$ | $10.26210 - 6.04290I$ |
| $u = -0.197438 + 0.089181I$<br>$a = \quad 1.00000$<br>$b = -0.668438 + 0.903987I$ | $-0.67003 + 2.58307I$ | $-5.46112 + 2.85660I$ |
| $u = -0.197438 - 0.089181I$<br>$a = \quad 1.00000$<br>$b = -0.668438 - 0.903987I$ | $-0.67003 - 2.58307I$ | $-5.46112 - 2.85660I$ |

**II.** $\boldsymbol{I_2^u = \langle 6.24 \times 10^{124} u^{53} + 1.40 \times 10^{125} u^{52} + \cdots + 4.42 \times 10^{127} b + 4.70 \times 10^{127},\ 5.28 \times 10^{127} u^{53} - 1.64 \times 10^{127} u^{52} + \cdots + 8.57 \times 10^{129} a + 7.91 \times 10^{128},\ 2u^{54} - 3u^{53} + \cdots + 95u - 97 \rangle}$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00616088u^{53} + 0.00191588u^{52} + \cdots - 2.54802u - 0.0921982 \\ -0.00141155u^{53} - 0.00316251u^{52} + \cdots + 0.798062u - 1.06236 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00474933u^{53} + 0.00507839u^{52} + \cdots - 3.34608u + 0.970161 \\ -0.00141155u^{53} - 0.00316251u^{52} + \cdots + 0.798062u - 1.06236 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.00820072u^{53} + 0.0152695u^{52} + \cdots - 2.12375u + 1.68293 \\ -0.0310592u^{53} + 0.0117199u^{52} + \cdots + 2.01862u - 1.67137 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0459316u^{53} - 0.0258658u^{52} + \cdots - 2.27013u + 4.10710 \\ -0.0103985u^{53} - 0.000118880u^{52} + \cdots + 0.840301u - 0.133245 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00436349u^{53} + 0.0140384u^{52} + \cdots - 1.70376u + 1.04810 \\ -0.0229988u^{53} + 0.0141891u^{52} + \cdots + 2.09429u - 1.33244 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0461208u^{53} + 0.0321142u^{52} + \cdots - 2.68247u - 3.34457 \\ -0.00729829u^{53} + 0.00864020u^{52} + \cdots + 1.09734u - 1.10864 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0553985u^{53} + 0.0605537u^{52} + \cdots - 2.42681u - 3.14804 \\ -0.00141547u^{53} + 0.00304333u^{52} + \cdots + 1.29536u - 0.247003 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0553985u^{53} + 0.0605537u^{52} + \cdots - 2.42681u - 3.14804 \\ -0.00141547u^{53} + 0.00304333u^{52} + \cdots + 1.29536u - 0.247003 \end{pmatrix}$$

**(ii) Obstruction class** $= -1$

**(iii) Cusp Shapes** $= -0.0491216u^{53} - 0.0253069u^{52} + \cdots + 8.86509u - 1.04494$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $2(2u^{54}+15u^{53}+\cdots+95u+8)$ |
| $c_2, c_6$ | $u^{54}+2u^{53}+\cdots+59u-58$ |
| $c_3, c_{11}$ | $(u^{27}+7u^{26}+\cdots-9u+1)^2$ |
| $c_4, c_7, c_8$<br>$c_{10}$ | $2(2u^{54}-3u^{53}+\cdots+95u-97)$ |
| $c_9$ | $4(2u^{27}-15u^{26}+\cdots+13u^2-1)^2$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
| --- | --- |
| $c_1, c_5$ | $4(4y^{54} - 45y^{53} + \cdots - 3041y + 64)$ |
| $c_2, c_6$ | $y^{54} - 2y^{53} + \cdots + 49299y + 3364$ |
| $c_3, c_{11}$ | $(y^{27} + 21y^{26} + \cdots + 79y - 1)^2$ |
| $c_4, c_7, c_8$<br>$c_{10}$ | $4(4y^{54} - 169y^{53} + \cdots - 117277y + 9409)$ |
| $c_9$ | $16(4y^{27} - 9y^{26} + \cdots + 26y - 1)^2$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_2^u$ | $\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 0.191553 + 1.007580I$<br>$a = 0.197325 - 1.352280I$<br>$b = -0.254804 - 1.313870I$ | $4.62049 - 3.14366I$ | $4.20111 + 7.48213I$ |
| $u = 0.191553 - 1.007580I$<br>$a = 0.197325 + 1.352280I$<br>$b = -0.254804 + 1.313870I$ | $4.62049 + 3.14366I$ | $4.20111 - 7.48213I$ |
| $u = 0.386921 + 0.863120I$<br>$a = -0.593875 + 1.093790I$<br>$b = -0.336359 + 1.256870I$ | $2.31398 + 4.08168I$ | $2.22183 - 6.73318I$ |
| $u = 0.386921 - 0.863120I$<br>$a = -0.593875 - 1.093790I$<br>$b = -0.336359 - 1.256870I$ | $2.31398 - 4.08168I$ | $2.22183 + 6.73318I$ |
| $u = 1.064480 + 0.283281I$<br>$a = 0.376709 + 0.499540I$<br>$b = 0.1247450 - 0.0513806I$ | $2.28814 + 0.50538I$ | $2.42708 - 2.42335I$ |
| $u = 1.064480 - 0.283281I$<br>$a = 0.376709 - 0.499540I$<br>$b = 0.1247450 + 0.0513806I$ | $2.28814 - 0.50538I$ | $2.42708 + 2.42335I$ |
| $u = -1.173860 + 0.089375I$<br>$a = -0.383376 + 0.706097I$<br>$b = -0.336359 - 1.256870I$ | $2.31398 - 4.08168I$ | $0. + 6.73318I$ |
| $u = -1.173860 - 0.089375I$<br>$a = -0.383376 - 0.706097I$<br>$b = -0.336359 + 1.256870I$ | $2.31398 + 4.08168I$ | $0. - 6.73318I$ |
| $u = 0.776371 + 0.247739I$<br>$a = 0.815173 - 0.579218I$<br>$b = -0.614397$ | $0.430797$ | $5.42999 + 0.I$ |
| $u = 0.776371 - 0.247739I$<br>$a = 0.815173 + 0.579218I$<br>$b = -0.614397$ | $0.430797$ | $5.42999 + 0.I$ |

| Solutions to $I_2^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 1.238460 + 0.091746I$<br>$a = -0.24657 + 1.71220I$<br>$b = -0.030026 - 1.195930I$ | $5.57978 + 0.76639I$ | $0$ |
| $u = 1.238460 - 0.091746I$<br>$a = -0.24657 - 1.71220I$<br>$b = -0.030026 + 1.195930I$ | $5.57978 - 0.76639I$ | $0$ |
| $u = 1.24296$<br>$a = -1.09764$<br>$b = -1.76258$ | $2.63016$ | $-3.15490$ |
| $u = -1.145500 + 0.484216I$<br>$a = 0.315197 - 0.415169I$<br>$b = 0.680724 - 0.185869I$ | $1.17342 - 7.19207I$ | $0$ |
| $u = -1.145500 - 0.484216I$<br>$a = 0.315197 + 0.415169I$<br>$b = 0.680724 + 0.185869I$ | $1.17342 + 7.19207I$ | $0$ |
| $u = -0.670966 + 0.279530I$<br>$a = -0.565660 + 0.309098I$<br>$b = -0.773490 - 0.664465I$ | $-1.04925 - 2.68015I$ | $-5.53151 + 8.74674I$ |
| $u = -0.670966 - 0.279530I$<br>$a = -0.565660 - 0.309098I$<br>$b = -0.773490 + 0.664465I$ | $-1.04925 + 2.68015I$ | $-5.53151 - 8.74674I$ |
| $u = 1.280920 + 0.236843I$<br>$a = -1.127380 + 0.336604I$<br>$b = -0.866120 + 0.477522I$ | $5.60462 + 2.74876I$ | $0$ |
| $u = 1.280920 - 0.236843I$<br>$a = -1.127380 - 0.336604I$<br>$b = -0.866120 - 0.477522I$ | $5.60462 - 2.74876I$ | $0$ |
| $u = 0.259489 + 0.638464I$<br>$a = 0.96234 - 1.27613I$<br>$b = 0.1247450 - 0.0513806I$ | $2.28814 + 0.50538I$ | $2.42708 - 2.42335I$ |

| Solutions to $I_2^u$ | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 0.259489 - 0.638464I$<br>$a = 0.96234 + 1.27613I$<br>$b = 0.1247450 + 0.0513806I$ | $2.28814 - 0.50538I$ | $2.42708 + 2.42335I$ |
| $u = 0.567756 + 0.331092I$<br>$a = 2.53793 - 1.74586I$<br>$b = 0.166726 - 1.050750I$ | $4.26736 + 0.63431I$ | $12.1339 + 9.7135I$ |
| $u = 0.567756 - 0.331092I$<br>$a = 2.53793 + 1.74586I$<br>$b = 0.166726 + 1.050750I$ | $4.26736 - 0.63431I$ | $12.1339 - 9.7135I$ |
| $u = -0.160026 + 0.628199I$<br>$a = 1.16003 + 1.52796I$<br>$b = 0.680724 - 0.185869I$ | $1.17342 - 7.19207I$ | $0.11287 + 4.65345I$ |
| $u = -0.160026 - 0.628199I$<br>$a = 1.16003 - 1.52796I$<br>$b = 0.680724 + 0.185869I$ | $1.17342 + 7.19207I$ | $0.11287 - 4.65345I$ |
| $u = -1.36432$<br>$a = -0.911050$<br>$b = -1.76258$ | $2.63016$ | $0$ |
| $u = -1.371770 + 0.220283I$<br>$a = -1.232130 + 0.224114I$<br>$b = -0.37076 - 1.49197I$ | $11.82420 - 7.32230I$ | $0$ |
| $u = -1.371770 - 0.220283I$<br>$a = -1.232130 - 0.224114I$<br>$b = -0.37076 + 1.49197I$ | $11.82420 + 7.32230I$ | $0$ |
| $u = 1.332520 + 0.426923I$<br>$a = -1.082420 + 0.112700I$<br>$b = -0.59674 + 1.64916I$ | $8.39486 + 8.30805I$ | $0$ |
| $u = 1.332520 - 0.426923I$<br>$a = -1.082420 - 0.112700I$<br>$b = -0.59674 - 1.64916I$ | $8.39486 - 8.30805I$ | $0$ |

| Solutions to $I_2^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 1.400330 + 0.060212I$<br>$a = 0.105658 - 0.724076I$<br>$b = -0.254804 + 1.313870I$ | $4.62049 + 3.14366I$ | 0 |
| $u = 1.400330 - 0.060212I$<br>$a = 0.105658 + 0.724076I$<br>$b = -0.254804 - 1.313870I$ | $4.62049 - 3.14366I$ | 0 |
| $u = -1.374310 + 0.307061I$<br>$a = 0.588248 - 0.864299I$<br>$b = 0.301099 + 1.258580I$ | $4.62741 - 10.78550I$ | 0 |
| $u = -1.374310 - 0.307061I$<br>$a = 0.588248 + 0.864299I$<br>$b = 0.301099 - 1.258580I$ | $4.62741 + 10.78550I$ | 0 |
| $u = -1.39386 + 0.25453I$<br>$a = -0.086561 + 0.330904I$<br>$b = 0.04157 - 1.44995I$ | $7.17653 - 4.66079I$ | 0 |
| $u = -1.39386 - 0.25453I$<br>$a = -0.086561 - 0.330904I$<br>$b = 0.04157 + 1.44995I$ | $7.17653 + 4.66079I$ | 0 |
| $u = -0.54304 + 1.36844I$<br>$a = 0.538172 + 0.790723I$<br>$b = 0.301099 + 1.258580I$ | $4.62741 - 10.78550I$ | 0 |
| $u = -0.54304 - 1.36844I$<br>$a = 0.538172 - 0.790723I$<br>$b = 0.301099 - 1.258580I$ | $4.62741 + 10.78550I$ | 0 |
| $u = 0.036428 + 0.483267I$<br>$a = -0.73990 + 2.82847I$<br>$b = 0.04157 + 1.44995I$ | $7.17653 + 4.66079I$ | $8.04120 - 5.42805I$ |
| $u = 0.036428 - 0.483267I$<br>$a = -0.73990 - 2.82847I$<br>$b = 0.04157 - 1.44995I$ | $7.17653 - 4.66079I$ | $8.04120 + 5.42805I$ |

| Solutions to $I_2^u$ | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = -1.49047 + 0.31194I$<br>$a = -0.913945 + 0.095159I$<br>$b = -0.59674 - 1.64916I$ | $8.39486 - 8.30805I$ | $0$ |
| $u = -1.49047 - 0.31194I$<br>$a = -0.913945 - 0.095159I$<br>$b = -0.59674 + 1.64916I$ | $8.39486 + 8.30805I$ | $0$ |
| $u = 0.293137 + 0.365513I$<br>$a = -1.36135 + 0.74389I$<br>$b = -0.773490 + 0.664465I$ | $-1.04925 + 2.68015I$ | $-5.53151 - 8.74674I$ |
| $u = 0.293137 - 0.365513I$<br>$a = -1.36135 - 0.74389I$<br>$b = -0.773490 - 0.664465I$ | $-1.04925 - 2.68015I$ | $-5.53151 + 8.74674I$ |
| $u = -1.52380 + 0.16415I$<br>$a = -0.814414 - 0.243162I$<br>$b = -0.866120 + 0.477522I$ | $5.60462 + 2.74876I$ | $0$ |
| $u = -1.52380 - 0.16415I$<br>$a = -0.814414 + 0.243162I$<br>$b = -0.866120 - 0.477522I$ | $5.60462 - 2.74876I$ | $0$ |
| $u = -0.367419 + 0.090723I$<br>$a = 0.885070 + 0.465459I$<br>$b = -0.796175$ | $-1.55865$ | $-7.50405 + 0.I$ |
| $u = -0.367419 - 0.090723I$<br>$a = 0.885070 - 0.465459I$<br>$b = -0.796175$ | $-1.55865$ | $-7.50405 + 0.I$ |
| $u = 1.64083 + 0.57885I$<br>$a = -0.785614 + 0.142897I$<br>$b = -0.37076 + 1.49197I$ | $11.82420 + 7.32230I$ | $0$ |
| $u = 1.64083 - 0.57885I$<br>$a = -0.785614 - 0.142897I$<br>$b = -0.37076 - 1.49197I$ | $11.82420 - 7.32230I$ | $0$ |

| Solutions to $I_2^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 2.01897 + 0.15093I$<br>$a = 0.267457 - 0.183985I$<br>$b = 0.166726 + 1.050750I$ | $4.26736 - 0.63431I$ | 0 |
| $u = 2.01897 - 0.15093I$<br>$a = 0.267457 + 0.183985I$<br>$b = 0.166726 - 1.050750I$ | $4.26736 + 0.63431I$ | 0 |
| $u = -0.46246 + 2.09787I$<br>$a = -0.082399 - 0.572177I$<br>$b = -0.030026 - 1.195930I$ | $5.57978 + 0.76639I$ | 0 |
| $u = -0.46246 - 2.09787I$<br>$a = -0.082399 + 0.572177I$<br>$b = -0.030026 + 1.195930I$ | $5.57978 - 0.76639I$ | 0 |

**III.** $\boldsymbol{I^u_3 = \langle 2u^7 - 3u^6 + \cdots + b + 4,\ a + 1,\ u^8 - u^7 + \cdots + 2u + 1\rangle}$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1 \\ -2u^7 + 3u^6 + 5u^5 - 6u^4 - 10u^3 + 12u^2 + u - 4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2u^7 - 3u^6 - 5u^5 + 6u^4 + 10u^3 - 12u^2 - u + 3 \\ -2u^7 + 3u^6 + 5u^5 - 6u^4 - 10u^3 + 12u^2 + u - 4 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^7 - u^6 - 2u^5 + 2u^4 + 3u^3 - 5u^2 + u + 2 \\ -3u^7 + 4u^6 + 7u^5 - 8u^4 - 13u^3 + 17u^2 - 5 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ u^7 - 2u^6 - 2u^5 + 5u^4 + 5u^3 - 10u^2 + 4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0 \\ -3u^7 + 5u^6 + 6u^5 - 11u^4 - 12u^3 + 22u^2 - 2u - 7 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ u^7 - u^6 - 2u^5 + 2u^4 + 4u^3 - 5u^2 + u + 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^2 - 1 \\ -2u^7 + 2u^6 + 5u^5 - 4u^4 - 9u^3 + 8u^2 + u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^2 - 1 \\ -2u^7 + 2u^6 + 5u^5 - 4u^4 - 9u^3 + 8u^2 + u - 3 \end{pmatrix}$$

**(ii) Obstruction class** $= 1$

**(iii) Cusp Shapes** $= 16u^7 - 28u^6 - 34u^5 + 61u^4 + 69u^3 - 119u^2 + 4u + 48$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $u^8 + u^7 + 2u^5 + 3u^4 + 2u^3 + 5u^2 + 6u + 3$ |
| $c_2, c_6$ | $u^8 + u^7 + u^6 + 3u^5 + 4u^4 + 3u^3 + 4u^2 + u + 1$ |
| $c_3$ | $u^8 + 2u^7 + 6u^6 + 6u^5 + 8u^4 + 3u^3 + 3u^2 - u + 1$ |
| $c_4, c_7$ | $u^8 - u^7 - 3u^6 + 2u^5 + 6u^4 - 4u^3 - 3u^2 + 2u + 1$ |
| $c_8, c_{10}$ | $u^8 + u^7 - 3u^6 - 2u^5 + 6u^4 + 4u^3 - 3u^2 - 2u + 1$ |
| $c_9$ | $u^8 - 5u^7 + 11u^6 - 11u^5 + 4u^4 + 2u^3 + 1$ |
| $c_{11}$ | $u^8 - 2u^7 + 6u^6 - 6u^5 + 8u^4 - 3u^3 + 3u^2 + u + 1$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $y^8 - y^7 + 2y^6 + 2y^5 - 5y^4 + 2y^3 + 19y^2 - 6y + 9$ |
| $c_2, c_6$ | $y^8 + y^7 + 3y^6 + y^5 + 6y^4 + 19y^3 + 18y^2 + 7y + 1$ |
| $c_3, c_{11}$ | $y^8 + 8y^7 + 28y^6 + 54y^5 + 70y^4 + 63y^3 + 31y^2 + 5y + 1$ |
| $c_4, c_7, c_8$ $c_{10}$ | $y^8 - 7y^7 + 25y^6 - 54y^5 + 76y^4 - 66y^3 + 37y^2 - 10y + 1$ |
| $c_9$ | $y^8 - 3y^7 + 19y^6 - 13y^5 + 62y^4 + 18y^3 + 8y^2 + 1$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_3^u$ | $\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 0.830521 + 0.472642I$<br>$a = -1.00000$<br>$b = 0.278585 - 0.369009I$ | $2.51723 + 7.95538I$ | $6.62650 - 7.10591I$ |
| $u = 0.830521 - 0.472642I$<br>$a = -1.00000$<br>$b = 0.278585 + 0.369009I$ | $2.51723 - 7.95538I$ | $6.62650 + 7.10591I$ |
| $u = -1.22650 + 0.71722I$<br>$a = -1.00000$<br>$b = -0.111561 - 1.113420I$ | $4.68125 - 1.07313I$ | $14.8263 - 3.4130I$ |
| $u = -1.22650 - 0.71722I$<br>$a = -1.00000$<br>$b = -0.111561 + 1.113420I$ | $4.68125 + 1.07313I$ | $14.8263 + 3.4130I$ |
| $u = 1.39864 + 0.40204I$<br>$a = -1.00000$<br>$b = -0.43221 + 1.63582I$ | $9.60260 + 7.88243I$ | $8.54857 - 6.07539I$ |
| $u = 1.39864 - 0.40204I$<br>$a = -1.00000$<br>$b = -0.43221 - 1.63582I$ | $9.60260 - 7.88243I$ | $8.54857 + 6.07539I$ |
| $u = -0.502656 + 0.059050I$<br>$a = -1.00000$<br>$b = -0.734811 - 0.874667I$ | $-0.35174 - 2.79718I$ | $11.9986 + 8.3500I$ |
| $u = -0.502656 - 0.059050I$<br>$a = -1.00000$<br>$b = -0.734811 + 0.874667I$ | $-0.35174 + 2.79718I$ | $11.9986 - 8.3500I$ |

## IV. $I_4^u = \langle u^2 + b,\ a + 1,\ u^3 - u - 1\rangle$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ -1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 - 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u + 1 \\ -u^2 - u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 - 1 \\ -u^2 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^2 - 1 \\ -u^2 + u \end{pmatrix}$$

**(ii) Obstruction class** $= 1$

**(iii) Cusp Shapes** $= 12$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $(u-1)^3$ |
| $c_2, c_6, c_{11}$ | $u^3-2u^2+u-1$ |
| $c_3$ | $u^3+2u^2+u+1$ |
| $c_4, c_7$ | $u^3-u-1$ |
| $c_8, c_{10}$ | $u^3-u+1$ |
| $c_9$ | $u^3-2u^2+3u-1$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $(y-1)^3$ |
| $c_2, c_3, c_6$ $c_{11}$ | $y^3 - 2y^2 - 3y - 1$ |
| $c_4, c_7, c_8$ $c_{10}$ | $y^3 - 2y^2 + y - 1$ |
| $c_9$ | $y^3 + 2y^2 + 5y - 1$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_4^u$ | $\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u=-0.662359+0.562280I$<br>$a=-1.00000$<br>$b=-0.122561+0.744862I$ | 3.28987 | 12.0000 |
| $u=-0.662359-0.562280I$<br>$a=-1.00000$<br>$b=-0.122561-0.744862I$ | 3.28987 | 12.0000 |
| $u=\quad 1.32472$<br>$a=-1.00000$<br>$b=-1.75488$ | 3.28987 | 12.0000 |

## V. $I_5^u = \langle b+1,\ a-2,\ 2u-1\rangle$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -0.25 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.5 \\ 0.375 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 4 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -0.25 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 3 \\ -1.75 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2 \\ 1.5 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$

**(ii) Obstruction class** $= 1$

**(iii) Cusp Shapes** $= -14.0625$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1$ | $2(2u-3)$ |
| $c_2$ | $u-2$ |
| $c_3, c_6, c_7$ | $u+1$ |
| $c_4$ | $2(2u-1)$ |
| $c_5$ | $u$ |
| $c_8, c_9$ | $2(2u+1)$ |
| $c_{10}, c_{11}$ | $u-1$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1$ | $4(4y-9)$ |
| $c_2$ | $y-4$ |
| $c_3, c_6, c_7$<br>$c_{10}, c_{11}$ | $y-1$ |
| $c_4, c_8, c_9$ | $4(4y-1)$ |
| $c_5$ | $y$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_5^u$ | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = 0.500000$ | | |
| $a = 2.00000$ | 0 | $-14.0620$ |
| $b = -1.00000$ | | |

### VI. $I_6^u = \langle b+1,\ 2a-1,\ u+1 \rangle$

**(i) Arc colorings**

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.5 \\ -1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.5 \\ -1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 2.5 \\ -1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.75 \\ 0.5 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.5 \\ -1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.25 \\ -1.5 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.375 \\ -0.25 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.375 \\ -0.25 \end{pmatrix}$$

**(ii) Obstruction class** $= 1$

**(iii) Cusp Shapes** $= -14.0625$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1$ | $u$ |
| $c_2, c_3, c_4$ | $u+1$ |
| $c_5$ | $2(2u-3)$ |
| $c_6$ | $u-2$ |
| $c_7$ | $2(2u-1)$ |
| $c_8, c_{11}$ | $u-1$ |
| $c_9, c_{10}$ | $2(2u+1)$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1$ | $y$ |
| $c_2, c_3, c_4$ $c_8, c_{11}$ | $y-1$ |
| $c_5$ | $4(4y-9)$ |
| $c_6$ | $y-4$ |
| $c_7, c_9, c_{10}$ | $4(4y-1)$ |

**(vi) Complex Volumes and Cusp Shapes**

| Solutions to $I_6^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = -1.00000$<br>$a = \quad 0.500000$<br>$b = -1.00000$ | 0 | $-14.0620$ |

## VII. $I_7^u = \langle b+1,\ a+1,\ u+1 \rangle$

**(i) Arc colorings**

$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_8 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_5 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

$a_{11} = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$

$a_1 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_3 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

$a_6 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

**(ii) Obstruction class** $= 1$

**(iii) Cusp Shapes** $= 0$

**(iv) u-Polynomials at the component**

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $u$ |
| $c_2, c_3, c_4$<br>$c_6, c_7$ | $u+1$ |
| $c_8, c_9, c_{10}$<br>$c_{11}$ | $u-1$ |

**(v) Riley Polynomials at the component**

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $y$ |
| $c_2, c_3, c_4$<br>$c_6, c_7, c_8$<br>$c_9, c_{10}, c_{11}$ | $y - 1$ |

### (vi) Complex Volumes and Cusp Shapes

| Solutions to $I_7^u$ | $\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---|---|
| $u = -1.00000$<br>$a = -1.00000$<br>$b = -1.00000$ | 0 | 0 |

## VIII. u-Polynomials

| Crossings | u-Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $4u^2(u-1)^3(2u-3)(u^8+u^7+2u^5+3u^4+2u^3+5u^2+6u+3)$ <br> $\cdot(u^{27}+2u^{26}+\cdots+8u+2)(2u^{54}+15u^{53}+\cdots+95u+8)$ |
| $c_2, c_6$ | $(u-2)(u+1)^2(u^3-2u^2+u-1)$ <br> $\cdot(u^8+u^7+\cdots+u+1)(u^{27}+7u^{25}+\cdots-3u+1)$ <br> $\cdot(u^{54}+2u^{53}+\cdots+59u-58)$ |
| $c_3$ | $(u+1)^3(u^3+2u^2+u+1)$ <br> $\cdot(u^8+2u^7+6u^6+6u^5+8u^4+3u^3+3u^2-u+1)$ <br> $\cdot(u^{27}-10u^{26}+\cdots+172u-16)(u^{27}+7u^{26}+\cdots-9u+1)^2$ |
| $c_4, c_7$ | $4(u+1)^2(2u-1)(u^3-u-1)$ <br> $\cdot(u^8-u^7-3u^6+2u^5+6u^4-4u^3-3u^2+2u+1)$ <br> $\cdot(u^{27}-15u^{25}+\cdots+8u+1)(2u^{54}-3u^{53}+\cdots+95u-97)$ |
| $c_8, c_{10}$ | $4(u-1)^2(2u+1)(u^3-u+1)$ <br> $\cdot(u^8+u^7-3u^6-2u^5+6u^4+4u^3-3u^2-2u+1)$ <br> $\cdot(u^{27}-15u^{25}+\cdots+8u+1)(2u^{54}-3u^{53}+\cdots+95u-97)$ |
| $c_9$ | $16(u-1)(2u+1)^2(u^3-2u^2+3u-1)$ <br> $\cdot(u^8-5u^7+\cdots+2u^3+1)(u^{27}+13u^{26}+\cdots-28u-4)$ <br> $\cdot(2u^{27}-15u^{26}+\cdots+13u^2-1)^2$ |
| $c_{11}$ | $(u-1)^3(u^3-2u^2+u-1)$ <br> $\cdot(u^8-2u^7+6u^6-6u^5+8u^4-3u^3+3u^2+u+1)$ <br> $\cdot(u^{27}-10u^{26}+\cdots+172u-16)(u^{27}+7u^{26}+\cdots-9u+1)^2$ |

## IX. Riley Polynomials

| Crossings | Riley Polynomials at each crossing |
|---|---|
| $c_1, c_5$ | $16y^2(y-1)^3(4y-9)(y^8-y^7+\cdots-6y+9)$ $\cdot(y^{27}-4y^{26}+\cdots+84y-4)(4y^{54}-45y^{53}+\cdots-3041y+64)$ |
| $c_2, c_6$ | $(y-4)(y-1)^2(y^3-2y^2-3y-1)$ $\cdot(y^8+y^7+3y^6+y^5+6y^4+19y^3+18y^2+7y+1)$ $\cdot(y^{27}+14y^{26}+\cdots-15y-1)(y^{54}-2y^{53}+\cdots+49299y+3364)$ |
| $c_3, c_{11}$ | $(y-1)^3(y^3-2y^2-3y-1)$ $\cdot(y^8+8y^7+28y^6+54y^5+70y^4+63y^3+31y^2+5y+1)$ $\cdot(y^{27}+16y^{26}+\cdots+6320y-256)(y^{27}+21y^{26}+\cdots+79y-1)^2$ |
| $c_4, c_7, c_8$ $c_{10}$ | $16(y-1)^2(4y-1)(y^3-2y^2+y-1)$ $\cdot(y^8-7y^7+25y^6-54y^5+76y^4-66y^3+37y^2-10y+1)$ $\cdot(y^{27}-30y^{26}+\cdots+34y-1)(4y^{54}-169y^{53}+\cdots-117277y+9409)$ |
| $c_9$ | $256(y-1)(4y-1)^2(y^3+2y^2+5y-1)$ $\cdot(y^8-3y^7+19y^6-13y^5+62y^4+18y^3+8y^2+1)$ $\cdot(y^{27}-3y^{26}+\cdots+56y-16)(4y^{27}-9y^{26}+\cdots+26y-1)^2$ |