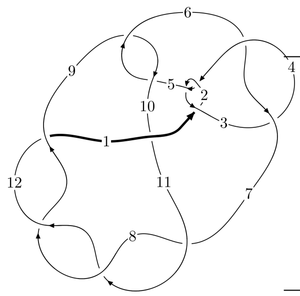
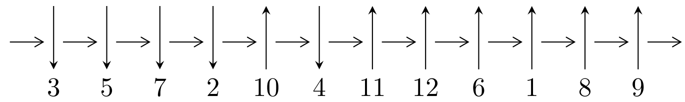
$12a_{0050}$ ($K12a_{0050}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$8,11 \xrightarrow[c_{11}]{} 12 \xrightarrow[c_8]{} 9 \xrightarrow[c_{12}]{} 1 \xrightarrow[c_7]{} 4,7 \xrightarrow[c_3]{} 3 \xrightarrow[c_1]{} 2 \xrightarrow[c_6]{} 6 \xrightarrow[c_{10}]{} 10 \xrightarrow[c_5]{} 5 \twoheadrightarrow c_2, c_4, c_9$$

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

$$\begin{aligned}
I_1^u = \langle & 2.41187 \times 10^{28} u^{86} - 8.03613 \times 10^{28} u^{85} + \cdots + 8.45678 \times 10^{26} b - 1.28690 \times 10^{28}, \\
& - 1.57728 \times 10^{28} u^{86} + 4.79845 \times 10^{28} u^{85} + \cdots + 1.26852 \times 10^{27} a - 9.45453 \times 10^{26}, \\
& u^{87} - 5u^{86} + \cdots - 12u + 1 \rangle \\
I_2^u = \langle & -u^5 + u^4 + 3u^3 - u^2 + b - 2u - 2,\ u^5 - u^4 - 3u^3 + u^2 + a + 2u + 2,\ u^6 - u^5 - 3u^4 + 2u^3 + 2u^2 + u - 1 \rangle \\
I_3^u = \langle & 5a^2u + 9a^2 - 17au + 11b - 13a + 3u + 12,\ a^3 - 2a^2u - a^2 - 2au + 3a - 7u + 3,\ u^2 + u - 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 99 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. $I_1^u = \langle 2.41 \times 10^{28} u^{86} - 8.04 \times 10^{28} u^{85} + \cdots + 8.46 \times 10^{26} b - 1.29 \times 10^{28},\ -1.58 \times 10^{28} u^{86} + 4.80 \times 10^{28} u^{85} + \cdots + 1.27 \times 10^{27} a - 9.45 \times 10^{26},\ u^{87} - 5u^{86} + \cdots - 12u + 1 \rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 12.4341u^{86} - 37.8273u^{85} + \cdots + 73.4069u + 0.745322 \\ -28.5200u^{86} + 95.0259u^{85} + \cdots - 184.859u + 15.2174 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -23.4679u^{86} + 86.4564u^{85} + \cdots - 189.281u + 23.9765 \\ 7.38192u^{86} - 29.2577u^{85} + \cdots + 77.8285u - 8.01379 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -12.9963u^{86} + 40.5794u^{85} + \cdots - 77.7307u + 2.64155 \\ 23.6604u^{86} - 78.3808u^{85} + \cdots + 153.528u - 12.6789 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 35.4668u^{86} - 123.526u^{85} + \cdots + 266.381u - 20.1274 \\ -44.3507u^{86} + 155.563u^{85} + \cdots - 328.649u + 28.6288 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^6 + 3u^4 - 2u^2 + 1 \\ u^8 - 4u^6 + 4u^4 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -12.8929u^{86} + 44.8571u^{85} + \cdots - 91.9941u + 11.8160 \\ 2.22886u^{86} - 7.05574u^{85} + \cdots + 16.1967u - 1.77867 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$$= -\frac{10273217624408414786374874349}{4228388409529114746093844 18}u^{86} + \frac{33680189062042541632794753137}{422838840952911474609384418}u^{85} + \cdots - \frac{5218785875298751263920478327 9}{422838840952911474609384418}u - \frac{41181870233623162630758751 9}{422838840952911474609384418}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{87} + 41u^{86} + \cdots + 1968u + 1$
c_2, c_4	$u^{87} - 9u^{86} + \cdots + 42u + 1$
c_3, c_6	$u^{87} - 3u^{86} + \cdots - 512u + 64$
c_5, c_9	$u^{87} - 2u^{86} + \cdots - 224u - 64$
c_7, c_8, c_{11} c_{12}	$u^{87} - 5u^{86} + \cdots - 12u + 1$
c_{10}	$u^{87} + 23u^{86} + \cdots - 19872u + 337$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{87} + 19y^{86} + \cdots + 3775568y - 1$
c_2, c_4	$y^{87} - 41y^{86} + \cdots + 1968y - 1$
c_3, c_6	$y^{87} + 45y^{86} + \cdots + 139264y - 4096$
c_5, c_9	$y^{87} + 40y^{86} + \cdots + 29696y - 4096$
c_7, c_8, c_{11} c_{12}	$y^{87} - 101y^{86} + \cdots + 152y - 1$
c_{10}	$y^{87} - 5y^{86} + \cdots + 506574140y - 113569$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.010010 + 0.280355I$ $a = -0.454171 + 0.318801I$ $b = -0.363009 - 1.195620I$	$1.86315 - 5.76624I$	0
$u = 1.010010 - 0.280355I$ $a = -0.454171 - 0.318801I$ $b = -0.363009 + 1.195620I$	$1.86315 + 5.76624I$	0
$u = 0.891141 + 0.294012I$ $a = 0.201900 - 0.412796I$ $b = 0.47945 + 1.39754I$	$3.78271 - 0.75026I$	0
$u = 0.891141 - 0.294012I$ $a = 0.201900 + 0.412796I$ $b = 0.47945 - 1.39754I$	$3.78271 + 0.75026I$	0
$u = -0.728506 + 0.562808I$ $a = -0.003687 - 0.438604I$ $b = -0.18441 + 1.95219I$	$-0.38906 - 13.27690I$	0
$u = -0.728506 - 0.562808I$ $a = -0.003687 + 0.438604I$ $b = -0.18441 - 1.95219I$	$-0.38906 + 13.27690I$	0
$u = -0.721882 + 0.517254I$ $a = 0.181711 + 0.389685I$ $b = 0.11772 - 1.87759I$	$2.10446 - 7.61105I$	0
$u = -0.721882 - 0.517254I$ $a = 0.181711 - 0.389685I$ $b = 0.11772 + 1.87759I$	$2.10446 + 7.61105I$	0
$u = -0.672458 + 0.516598I$ $a = 0.817277 - 0.015309I$ $b = 0.536901 + 0.326251I$	$-2.69044 - 6.81997I$	0
$u = -0.672458 - 0.516598I$ $a = 0.817277 + 0.015309I$ $b = 0.536901 - 0.326251I$	$-2.69044 + 6.81997I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.829810 + 0.126652I$ $a = -0.864661 - 0.893648I$ $b = 0.09823 + 1.44423I$	$-0.281846 - 0.813988I$	0
$u = 0.829810 - 0.126652I$ $a = -0.864661 + 0.893648I$ $b = 0.09823 - 1.44423I$	$-0.281846 + 0.813988I$	0
$u = -0.551676 + 0.628089I$ $a = 0.446283 - 0.209888I$ $b = 0.462139 - 0.044862I$	$-4.48506 - 0.94573I$	0
$u = -0.551676 - 0.628089I$ $a = 0.446283 + 0.209888I$ $b = 0.462139 + 0.044862I$	$-4.48506 + 0.94573I$	0
$u = -0.633849 + 0.504234I$ $a = -0.510764 - 0.726611I$ $b = 0.13756 + 1.96218I$	$-3.58375 - 4.13631I$	0
$u = -0.633849 - 0.504234I$ $a = -0.510764 + 0.726611I$ $b = 0.13756 - 1.96218I$	$-3.58375 + 4.13631I$	0
$u = 0.686979 + 0.423204I$ $a = -0.381993 - 0.202436I$ $b = 0.78804 + 1.56982I$	$3.84596 + 1.80001I$	0
$u = 0.686979 - 0.423204I$ $a = -0.381993 + 0.202436I$ $b = 0.78804 - 1.56982I$	$3.84596 - 1.80001I$	0
$u = 0.627329 + 0.490479I$ $a = 0.496057 + 0.013424I$ $b = -0.83681 - 1.57447I$	$2.05491 + 6.93244I$	0
$u = 0.627329 - 0.490479I$ $a = 0.496057 - 0.013424I$ $b = -0.83681 + 1.57447I$	$2.05491 - 6.93244I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.415376+0.656442I$ $a=-0.247896+0.519613I$ $b=-0.296944+0.491125I$	$-4.88363-3.37848I$	0
$u=-0.415376-0.656442I$ $a=-0.247896-0.519613I$ $b=-0.296944-0.491125I$	$-4.88363+3.37848I$	0
$u=-0.599038+0.447390I$ $a=-0.782862-0.244572I$ $b=-0.414912-0.371063I$	$-1.18861-2.16669I$	0
$u=-0.599038-0.447390I$ $a=-0.782862+0.244572I$ $b=-0.414912+0.371063I$	$-1.18861+2.16669I$	0
$u=-0.676449+0.299656I$ $a=0.756567-0.237800I$ $b=0.00819-1.44854I$	$4.62680-3.56560I$	$7.27157+9.65744I$
$u=-0.676449-0.299656I$ $a=0.756567+0.237800I$ $b=0.00819+1.44854I$	$4.62680+3.56560I$	$7.27157-9.65744I$
$u=-0.190684+0.682767I$ $a=1.84849+0.10243I$ $b=-0.022296+0.386971I$	$-1.98497+9.09309I$	$0.-5.78619I$
$u=-0.190684-0.682767I$ $a=1.84849-0.10243I$ $b=-0.022296-0.386971I$	$-1.98497-9.09309I$	$0.+5.78619I$
$u=0.595986+0.335404I$ $a=1.15247+0.88242I$ $b=0.095803-1.019010I$	$-0.41312+1.89802I$	$2.53218-5.30507I$
$u=0.595986-0.335404I$ $a=1.15247-0.88242I$ $b=0.095803+1.019010I$	$-0.41312-1.89802I$	$2.53218+5.30507I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.159142 + 0.620290I$ $a = -1.93738 - 0.18215I$ $b = 0.042132 - 0.161742I$	$0.45494 + 3.75851I$	$2.39831 - 2.27831I$
$u = -0.159142 - 0.620290I$ $a = -1.93738 + 0.18215I$ $b = 0.042132 + 0.161742I$	$0.45494 - 3.75851I$	$2.39831 + 2.27831I$
$u = -0.598200 + 0.200921I$ $a = -1.088720 + 0.625520I$ $b = -0.056104 + 1.282070I$	$4.04708 + 2.36658I$	$3.70340 + 8.40480I$
$u = -0.598200 - 0.200921I$ $a = -1.088720 - 0.625520I$ $b = -0.056104 - 1.282070I$	$4.04708 - 2.36658I$	$3.70340 - 8.40480I$
$u = -0.229873 + 0.585003I$ $a = -0.237608 + 0.897450I$ $b = 0.011505 + 0.833562I$	$-3.98249 + 3.05201I$	$-2.80405 - 2.05356I$
$u = -0.229873 - 0.585003I$ $a = -0.237608 - 0.897450I$ $b = 0.011505 - 0.833562I$	$-3.98249 - 3.05201I$	$-2.80405 + 2.05356I$
$u = -0.282835 + 0.551663I$ $a = 2.12272 + 0.04738I$ $b = -0.537227 + 0.031704I$	$-4.60787 + 0.49284I$	$-2.55335 - 0.71964I$
$u = -0.282835 - 0.551663I$ $a = 2.12272 - 0.04738I$ $b = -0.537227 - 0.031704I$	$-4.60787 - 0.49284I$	$-2.55335 + 0.71964I$
$u = 0.292776 + 0.514297I$ $a = 1.56985 + 0.81715I$ $b = 0.391728 - 0.558737I$	$1.08055 - 3.42442I$	$2.38420 + 1.79720I$
$u = 0.292776 - 0.514297I$ $a = 1.56985 - 0.81715I$ $b = 0.391728 + 0.558737I$	$1.08055 + 3.42442I$	$2.38420 - 1.79720I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.350737 + 0.463289I$ $a = -0.205369 - 0.866134I$ $b = -0.160390 - 0.592063I$	$-1.92348 - 1.04705I$	$-0.41462 + 4.62441I$
$u = -0.350737 - 0.463289I$ $a = -0.205369 + 0.866134I$ $b = -0.160390 + 0.592063I$	$-1.92348 + 1.04705I$	$-0.41462 - 4.62441I$
$u = 1.41295 + 0.17256I$ $a = -0.516333 - 0.548345I$ $b = 0.201492 + 1.207130I$	$0.95643 + 6.36363I$	0
$u = 1.41295 - 0.17256I$ $a = -0.516333 + 0.548345I$ $b = 0.201492 - 1.207130I$	$0.95643 - 6.36363I$	0
$u = 1.42426 + 0.02648I$ $a = -0.79902 + 1.28037I$ $b = 0.25311 - 1.81147I$	$0.53938 + 1.34945I$	0
$u = 1.42426 - 0.02648I$ $a = -0.79902 - 1.28037I$ $b = 0.25311 + 1.81147I$	$0.53938 - 1.34945I$	0
$u = -1.46571 + 0.05632I$ $a = -0.051547 + 0.571568I$ $b = -0.189919 + 0.027666I$	$6.64268 + 1.76311I$	0
$u = -1.46571 - 0.05632I$ $a = -0.051547 - 0.571568I$ $b = -0.189919 - 0.027666I$	$6.64268 - 1.76311I$	0
$u = 1.47372 + 0.06877I$ $a = 0.188121 + 0.967063I$ $b = 0.32808 - 1.44311I$	$4.00953 + 2.73511I$	0
$u = 1.47372 - 0.06877I$ $a = 0.188121 - 0.967063I$ $b = 0.32808 + 1.44311I$	$4.00953 - 2.73511I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.487248 + 0.192015I$ $a = 1.60102 + 0.93973I$ $b = -1.32640 - 1.87157I$	$-1.041640 + 0.182607I$	$4.12606 - 13.21729I$
$u = 0.487248 - 0.192015I$ $a = 1.60102 - 0.93973I$ $b = -1.32640 + 1.87157I$	$-1.041640 - 0.182607I$	$4.12606 + 13.21729I$
$u = 0.509388$ $a = -0.679237$ $b = 0.383628$	0.764590	13.1770
$u = 0.131672 + 0.482233I$ $a = -1.86437 - 0.77008I$ $b = -0.267014 + 0.371744I$	$2.25594 + 1.34746I$	$3.93001 - 3.94443I$
$u = 0.131672 - 0.482233I$ $a = -1.86437 + 0.77008I$ $b = -0.267014 - 0.371744I$	$2.25594 - 1.34746I$	$3.93001 + 3.94443I$
$u = 1.52856 + 0.19143I$ $a = 0.408104 + 0.063979I$ $b = -0.616967 - 0.460387I$	$2.36054 + 3.92288I$	0
$u = 1.52856 - 0.19143I$ $a = 0.408104 - 0.063979I$ $b = -0.616967 + 0.460387I$	$2.36054 - 3.92288I$	0
$u = -1.57166 + 0.06729I$ $a = -2.08529 + 3.23114I$ $b = 1.90322 - 3.71902I$	$6.18518 - 1.19455I$	0
$u = -1.57166 - 0.06729I$ $a = -2.08529 - 3.23114I$ $b = 1.90322 + 3.71902I$	$6.18518 + 1.19455I$	0
$u = 1.57641 + 0.12488I$ $a = -0.571783 + 0.472057I$ $b = 1.289790 - 0.459669I$	$6.19157 + 4.23438I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57641 - 0.12488I$ $a = -0.571783 - 0.472057I$ $b = 1.289790 + 0.459669I$	$6.19157 - 4.23438I$	0
$u = -1.57932 + 0.09454I$ $a = -0.247972 + 0.844562I$ $b = -0.362527 - 0.626041I$	$7.02868 - 3.46437I$	0
$u = -1.57932 - 0.09454I$ $a = -0.247972 - 0.844562I$ $b = -0.362527 + 0.626041I$	$7.02868 + 3.46437I$	0
$u = 1.58242 + 0.06903I$ $a = -0.29201 - 2.76631I$ $b = 0.57137 + 3.68365I$	$11.55840 - 1.29646I$	0
$u = 1.58242 - 0.06903I$ $a = -0.29201 + 2.76631I$ $b = 0.57137 - 3.68365I$	$11.55840 + 1.29646I$	0
$u = -1.58519$ $a = 0.997201$ $b = -0.668948$	8.07273	0
$u = -1.58073 + 0.14082I$ $a = -1.78005 + 2.09338I$ $b = 1.45293 - 2.87581I$	$9.51389 - 9.24025I$	0
$u = -1.58073 - 0.14082I$ $a = -1.78005 - 2.09338I$ $b = 1.45293 + 2.87581I$	$9.51389 + 9.24025I$	0
$u = 1.58150 + 0.14435I$ $a = -0.90877 - 3.37832I$ $b = 0.76910 + 4.06653I$	$3.89012 + 6.50742I$	0
$u = 1.58150 - 0.14435I$ $a = -0.90877 + 3.37832I$ $b = 0.76910 - 4.06653I$	$3.89012 - 6.50742I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.59599 + 0.09211I$ $a = 0.40709 + 2.92156I$ $b = -0.51286 - 3.84759I$	$12.39170 + 5.06306I$	0
$u = 1.59599 - 0.09211I$ $a = 0.40709 - 2.92156I$ $b = -0.51286 + 3.84759I$	$12.39170 - 5.06306I$	0
$u = 1.59413 + 0.15161I$ $a = 0.653822 - 0.295842I$ $b = -1.396300 + 0.079914I$	$4.96648 + 9.29592I$	0
$u = 1.59413 - 0.15161I$ $a = 0.653822 + 0.295842I$ $b = -1.396300 - 0.079914I$	$4.96648 - 9.29592I$	0
$u = -1.59938 + 0.11914I$ $a = 1.61226 - 2.32414I$ $b = -1.40674 + 3.07633I$	$11.62610 - 3.80327I$	0
$u = -1.59938 - 0.11914I$ $a = 1.61226 + 2.32414I$ $b = -1.40674 - 3.07633I$	$11.62610 + 3.80327I$	0
$u = -1.61679 + 0.03544I$ $a = 0.83922 - 1.17901I$ $b = -0.380596 + 1.248080I$	$8.04740 + 0.17742I$	0
$u = -1.61679 - 0.03544I$ $a = 0.83922 + 1.17901I$ $b = -0.380596 - 1.248080I$	$8.04740 - 0.17742I$	0
$u = 1.61192 + 0.15359I$ $a = 0.97184 + 2.89964I$ $b = -0.70154 - 3.73677I$	$10.0164 + 10.1316I$	0
$u = 1.61192 - 0.15359I$ $a = 0.97184 - 2.89964I$ $b = -0.70154 + 3.73677I$	$10.0164 - 10.1316I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.61482 + 0.17017I$ $a = -1.12043 - 2.77461I$ $b = 0.75341 + 3.59107I$	$7.5322 + 16.0397I$	0
$u = 1.61482 - 0.17017I$ $a = -1.12043 + 2.77461I$ $b = 0.75341 - 3.59107I$	$7.5322 - 16.0397I$	0
$u = -1.65448 + 0.06893I$ $a = 0.76967 - 2.45752I$ $b = -0.91725 + 3.16651I$	$12.58290 - 0.59134I$	0
$u = -1.65448 - 0.06893I$ $a = 0.76967 + 2.45752I$ $b = -0.91725 - 3.16651I$	$12.58290 + 0.59134I$	0
$u = -1.67615 + 0.04835I$ $a = -0.48336 + 2.26752I$ $b = 0.78811 - 2.96006I$	$11.19340 + 4.66031I$	0
$u = -1.67615 - 0.04835I$ $a = -0.48336 - 2.26752I$ $b = 0.78811 + 2.96006I$	$11.19340 - 4.66031I$	0
$u = 0.0864028$ $a = 6.46516$ $b = -0.774246$	-1.21024	-9.56520

II. $\boldsymbol{I_2^u = \langle -u^5 + u^4 + 3u^3 - u^2 + b - 2u - 2,\ u^5 - u^4 - 3u^3 + u^2 + a + 2u + 2,\ u^6 - u^5 - 3u^4 + 2u^3 + 2u^2 + u - 1 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^5 + u^4 + 3u^3 - u^2 - 2u - 2 \\ u^5 - u^4 - 3u^3 + u^2 + 2u + 2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5 + u^4 + 3u^3 - u^2 - 2u - 2 \\ u^5 - u^4 - 3u^3 + u^2 + 2u + 2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^5 + u^4 + 3u^3 - 2u^2 - 2u - 1 \\ u^5 - 3u^3 - u^2 + 2u + 2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^5 + 2u^3 + u \\ u^5 - 3u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 - 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 10u^5 - 6u^4 - 38u^3 + 5u^2 + 33u + 27$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^6$
c_3, c_6	u^6
c_4	$(u+1)^6$
c_5, c_{10}	$u^6 - u^5 + 3u^4 - 2u^3 + 2u^2 - u - 1$
c_7, c_8	$u^6 + u^5 - 3u^4 - 2u^3 + 2u^2 - u - 1$
c_9	$u^6 + u^5 + 3u^4 + 2u^3 + 2u^2 + u - 1$
c_{11}, c_{12}	$u^6 - u^5 - 3u^4 + 2u^3 + 2u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^6$
c_3, c_6	y^6
c_5, c_9, c_{10}	$y^6 + 5y^5 + 9y^4 + 4y^3 - 6y^2 - 5y + 1$
c_7, c_8, c_{11} c_{12}	$y^6 - 7y^5 + 17y^4 - 16y^3 + 6y^2 - 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.493180+0.575288I$ $a=-0.228804+0.434483I$ $b=\ \ 0.228804-0.434483I$	$-4.60518-1.97241I$	$-0.89950+4.53432I$
$u=-0.493180-0.575288I$ $a=-0.228804-0.434483I$ $b=\ \ 0.228804+0.434483I$	$-4.60518+1.97241I$	$-0.89950-4.53432I$
$u=\ \ 0.483672$ $a=-2.83358$ $b=\ \ 2.83358$	-0.906083	39.7680
$u=\ \ 1.52087+0.16310I$ $a=\ \ 0.636388+0.565801I$ $b=-0.636388-0.565801I$	$2.05064+4.59213I$	$1.73030-5.96315I$
$u=\ \ 1.52087-0.16310I$ $a=\ \ 0.636388-0.565801I$ $b=-0.636388+0.565801I$	$2.05064-4.59213I$	$1.73030+5.96315I$
$u=-1.53904$ $a=\ \ 2.01841$ $b=-2.01841$	6.01515	6.57090

III. $\boldsymbol{I_3^u = \langle 5a^2u + 9a^2 - 17au + 11b - 13a + 3u + 12,\ a^3 - 2a^2u - a^2 - 2au + 3a - 7u + 3,\ u^2 + u - 1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ -u + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a \\ -0.454545a^2u + 1.54545au + \cdots + 1.18182a - 1.09091 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0909091a^2u + 0.909091au + \cdots + 1.63636a - 0.818182 \\ -0.363636a^2u + 0.636364au + \cdots + 0.545455a - 0.272727 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.363636a^2u + 0.363636au + \cdots + 0.454545a - 1.72727 \\ -2u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0909091a^2u + 0.0909091au + \cdots + 0.363636a - 1.18182 \\ 0.272727a^2u + 0.272727au + \cdots + 0.0909091a - 0.545455 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.0909091a^2u + 0.0909091au + \cdots + 0.363636a - 1.18182 \\ 0.272727a^2u + 0.272727au + \cdots + 0.0909091a - 0.545455 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{20}{11}a^2u - \frac{58}{11}a^2 + \frac{57}{11}au + \frac{107}{11}a + \frac{10}{11}u - \frac{59}{11}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$(u^3 - u^2 + 2u - 1)^2$
c_2	$(u^3 + u^2 - 1)^2$
c_4	$(u^3 - u^2 + 1)^2$
c_5, c_9	u^6
c_6	$(u^3 + u^2 + 2u + 1)^2$
c_7, c_8, c_{10}	$(u^2 - u - 1)^3$
c_{11}, c_{12}	$(u^2 + u - 1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_4	$(y^3 - y^2 + 2y - 1)^2$
c_5, c_9	y^6
c_7, c_8, c_{10} c_{11}, c_{12}	$(y^2 - 3y + 1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 0.290827 + 0.846791I$ $b = 0.057180 + 1.268210I$	$4.01109 - 2.82812I$	$3.00413 + 7.79836I$
$u = 0.618034$ $a = 0.290827 - 0.846791I$ $b = 0.057180 - 1.268210I$	$4.01109 + 2.82812I$	$3.00413 - 7.79836I$
$u = 0.618034$ $a = 1.65441$ $b = -0.732393$	-0.126494	-0.918090
$u = -1.61803$ $a = -2.26961$ $b = 1.91743$	7.76919	-21.8890
$u = -1.61803$ $a = 0.01677 + 2.51235I$ $b = -0.14970 - 3.32021I$	$11.90680 - 2.82812I$	$7.89941 + 3.17745I$
$u = -1.61803$ $a = 0.01677 - 2.51235I$ $b = -0.14970 + 3.32021I$	$11.90680 + 2.82812I$	$7.89941 - 3.17745I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^6)(u^3-u^2+2u-1)^2(u^{87}+41u^{86}+\cdots+1968u+1)$
c_2	$((u-1)^6)(u^3+u^2-1)^2(u^{87}-9u^{86}+\cdots+42u+1)$
c_3	$u^6(u^3-u^2+2u-1)^2(u^{87}-3u^{86}+\cdots-512u+64)$
c_4	$((u+1)^6)(u^3-u^2+1)^2(u^{87}-9u^{86}+\cdots+42u+1)$
c_5	$u^6(u^6-u^5+\cdots-u-1)(u^{87}-2u^{86}+\cdots-224u-64)$
c_6	$u^6(u^3+u^2+2u+1)^2(u^{87}-3u^{86}+\cdots-512u+64)$
c_7, c_8	$(u^2-u-1)^3(u^6+u^5-3u^4-2u^3+2u^2-u-1)$ $\cdot(u^{87}-5u^{86}+\cdots-12u+1)$
c_9	$u^6(u^6+u^5+\cdots+u-1)(u^{87}-2u^{86}+\cdots-224u-64)$
c_{10}	$(u^2-u-1)^3(u^6-u^5+3u^4-2u^3+2u^2-u-1)$ $\cdot(u^{87}+23u^{86}+\cdots-19872u+337)$
c_{11}, c_{12}	$(u^2+u-1)^3(u^6-u^5-3u^4+2u^3+2u^2+u-1)$ $\cdot(u^{87}-5u^{86}+\cdots-12u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^6)(y^3+3y^2+2y-1)^2(y^{87}+19y^{86}+\cdots+3775568y-1)$
c_2, c_4	$((y-1)^6)(y^3-y^2+2y-1)^2(y^{87}-41y^{86}+\cdots+1968y-1)$
c_3, c_6	$y^6(y^3+3y^2+2y-1)^2(y^{87}+45y^{86}+\cdots+139264y-4096)$
c_5, c_9	$y^6(y^6+5y^5+9y^4+4y^3-6y^2-5y+1)$ $\cdot(y^{87}+40y^{86}+\cdots+29696y-4096)$
c_7, c_8, c_{11} c_{12}	$(y^2-3y+1)^3(y^6-7y^5+17y^4-16y^3+6y^2-5y+1)$ $\cdot(y^{87}-101y^{86}+\cdots+152y-1)$
c_{10}	$(y^2-3y+1)^3(y^6+5y^5+9y^4+4y^3-6y^2-5y+1)$ $\cdot(y^{87}-5y^{86}+\cdots+506574140y-113569)$