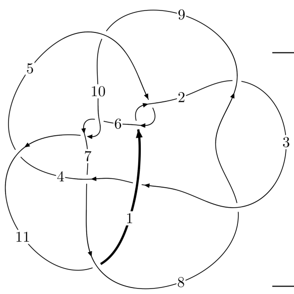
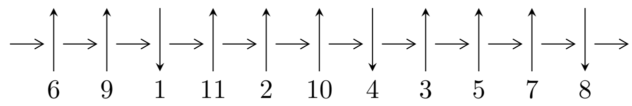
$11a_{283}$ ($K11a_{283}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -3.41985\times 10^{252}u^{85} + 4.09833\times 10^{252}u^{84} + \cdots + 1.22301\times 10^{255}b - 6.27945\times 10^{254}, \\
& -1.71138\times 10^{256}u^{85} + 1.63229\times 10^{256}u^{84} + \cdots + 1.02611\times 10^{258}a + 4.21212\times 10^{259}, \\
& u^{86} - u^{85} + \cdots - 4313u + 839\rangle \\
I_2^u = \langle & 6846u^{19} - 8204u^{18} + \cdots + 20003b - 10945, \\
& -1034553u^{19} - 1458425u^{18} + \cdots + 1180177a - 4013026,\ u^{20} + 8u^{18} + \cdots - 3u + 1\rangle \\
I_3^u = \langle & u^2 + b,\ a - 1,\ u^7 + u^5 + u + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 113 representations.

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[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. $\boldsymbol{I_1^u = \langle -3.42 \times 10^{252} u^{85} + 4.10 \times 10^{252} u^{84} + \cdots + 1.22 \times 10^{255} b - 6.28 \times 10^{254},\ -1.71 \times 10^{256} u^{85} + 1.63 \times 10^{256} u^{84} + \cdots + 1.03 \times 10^{258} a + 4.21 \times 10^{259},\ u^{86} - u^{85} + \cdots - 4313u + 839 \rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0166784u^{85} - 0.0159077u^{84} + \cdots + 114.699u - 41.0496 \\ 0.00279626u^{85} - 0.00335102u^{84} + \cdots + 16.6837u + 0.513442 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00695378u^{85} - 0.000700898u^{84} + \cdots + 21.3589u + 9.44845 \\ -0.0173378u^{85} + 0.0147297u^{84} + \cdots - 102.814u + 31.6226 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00332478u^{85} + 0.000929287u^{84} + \cdots - 42.6202u + 8.23376 \\ 0.00603896u^{85} - 0.00447428u^{84} + \cdots + 28.7233u - 4.85824 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0138821u^{85} - 0.0125566u^{84} + \cdots + 98.0158u - 41.5631 \\ 0.00279626u^{85} - 0.00335102u^{84} + \cdots + 16.6837u + 0.513442 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00463099u^{85} - 0.00234483u^{84} + \cdots - 22.7331u - 11.9767 \\ 0.00886090u^{85} - 0.00901715u^{84} + \cdots + 82.5953u - 20.3806 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.00673940u^{85} - 0.00311584u^{84} + \cdots + 1.27697u + 5.88708 \\ 0.00790831u^{85} - 0.0112601u^{84} + \cdots + 23.7107u - 8.85273 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0104754u^{85} - 0.00701084u^{84} + \cdots + 43.4674u + 6.56795 \\ -0.0169282u^{85} + 0.0130534u^{84} + \cdots - 109.942u + 32.1637 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0104754u^{85} - 0.00701084u^{84} + \cdots + 43.4674u + 6.56795 \\ -0.0169282u^{85} + 0.0130534u^{84} + \cdots - 109.942u + 32.1637 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0966063u^{85} + 0.0534792u^{84} + \cdots - 636.168u + 175.613$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{86} - 2u^{85} + \cdots + 4061u + 367$
c_2, c_8	$u^{86} + u^{85} + \cdots + 4313u + 839$
c_3	$u^{86} - 10u^{85} + \cdots - 578u + 79$
c_4	$u^{86} - 5u^{85} + \cdots + 16u + 1$
c_6, c_{10}	$u^{86} + 6u^{85} + \cdots - 2700u + 200$
c_7	$u^{86} + 4u^{85} + \cdots + 379u + 169$
c_9	$u^{86} + u^{85} + \cdots + 760266u + 130321$
c_{11}	$u^{86} + 5u^{85} + \cdots + 690u + 179$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{86} + 58y^{85} + \cdots - 1366917y + 134689$
c_2, c_8	$y^{86} + 73y^{85} + \cdots - 7899685y + 703921$
c_3	$y^{86} - 14y^{85} + \cdots - 153964y + 6241$
c_4	$y^{86} - 5y^{85} + \cdots + 200y + 1$
c_6, c_{10}	$y^{86} - 58y^{85} + \cdots - 4211600y + 40000$
c_7	$y^{86} + 14y^{85} + \cdots + 1122169y + 28561$
c_9	$y^{86} + 15y^{85} + \cdots + 56388593490y + 16983563041$
c_{11}	$y^{86} - 19y^{85} + \cdots - 1161312y + 32041$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.171045 + 0.950486I$ $a = 1.09878 + 2.26346I$ $b = 0.131608 + 0.877201I$	$1.71658 + 1.70443I$	0
$u = -0.171045 - 0.950486I$ $a = 1.09878 - 2.26346I$ $b = 0.131608 - 0.877201I$	$1.71658 - 1.70443I$	0
$u = -0.138042 + 1.039980I$ $a = 0.718636 + 0.240255I$ $b = -0.712835 + 0.801059I$	$1.54553 - 2.70454I$	0
$u = -0.138042 - 1.039980I$ $a = 0.718636 - 0.240255I$ $b = -0.712835 - 0.801059I$	$1.54553 + 2.70454I$	0
$u = -0.942410 + 0.113313I$ $a = 0.158648 + 0.099081I$ $b = 0.455331 + 1.100300I$	$2.54751 + 4.69288I$	0
$u = -0.942410 - 0.113313I$ $a = 0.158648 - 0.099081I$ $b = 0.455331 - 1.100300I$	$2.54751 - 4.69288I$	0
$u = 1.066980 + 0.013369I$ $a = 0.510040 - 0.562808I$ $b = -0.334819 - 1.068070I$	$-1.17731 + 3.15707I$	0
$u = 1.066980 - 0.013369I$ $a = 0.510040 + 0.562808I$ $b = -0.334819 + 1.068070I$	$-1.17731 - 3.15707I$	0
$u = 0.597375 + 0.937187I$ $a = 0.251462 + 0.325322I$ $b = 0.177390 - 0.920746I$	$0.43505 + 5.35734I$	0
$u = 0.597375 - 0.937187I$ $a = 0.251462 - 0.325322I$ $b = 0.177390 + 0.920746I$	$0.43505 - 5.35734I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.139913 + 1.108380I$ $a = -0.618464 + 0.196975I$ $b = -1.38818 + 0.35705I$	$2.56807 + 2.29900I$	0
$u = 0.139913 - 1.108380I$ $a = -0.618464 - 0.196975I$ $b = -1.38818 - 0.35705I$	$2.56807 - 2.29900I$	0
$u = -0.499950 + 1.009240I$ $a = 0.185257 - 0.499774I$ $b = 0.305862 + 0.044581I$	$-0.75390 - 3.34791I$	0
$u = -0.499950 - 1.009240I$ $a = 0.185257 + 0.499774I$ $b = 0.305862 - 0.044581I$	$-0.75390 + 3.34791I$	0
$u = -0.821993 + 0.102956I$ $a = -0.655973 + 0.796214I$ $b = 0.798776 + 0.329650I$	$4.82477 - 6.81993I$	$10.08009 + 4.71115I$
$u = -0.821993 - 0.102956I$ $a = -0.655973 - 0.796214I$ $b = 0.798776 - 0.329650I$	$4.82477 + 6.81993I$	$10.08009 - 4.71115I$
$u = -0.199723 + 1.160210I$ $a = -0.01752 - 3.29341I$ $b = 0.083947 - 0.961969I$	$0.51451 - 6.45826I$	0
$u = -0.199723 - 1.160210I$ $a = -0.01752 + 3.29341I$ $b = 0.083947 + 0.961969I$	$0.51451 + 6.45826I$	0
$u = -0.512127 + 0.559479I$ $a = 1.93509 - 0.19891I$ $b = -0.484188 - 0.707780I$	$2.45089 + 3.89737I$	$6.40177 - 6.57898I$
$u = -0.512127 - 0.559479I$ $a = 1.93509 + 0.19891I$ $b = -0.484188 + 0.707780I$	$2.45089 - 3.89737I$	$6.40177 + 6.57898I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.057454 + 1.246560I$ $a = 0.37475 - 1.69448I$ $b = -0.60933 - 1.42722I$	$-7.29903 + 0.31589I$	0
$u = 0.057454 - 1.246560I$ $a = 0.37475 + 1.69448I$ $b = -0.60933 + 1.42722I$	$-7.29903 - 0.31589I$	0
$u = 0.412211 + 1.181190I$ $a = 0.60682 - 1.66020I$ $b = -0.23005 - 1.40830I$	$-4.58690 + 2.56469I$	0
$u = 0.412211 - 1.181190I$ $a = 0.60682 + 1.66020I$ $b = -0.23005 + 1.40830I$	$-4.58690 - 2.56469I$	0
$u = -0.163970 + 1.241080I$ $a = -1.07090 - 2.17182I$ $b = 0.44077 - 1.34783I$	$-4.48521 - 6.86672I$	0
$u = -0.163970 - 1.241080I$ $a = -1.07090 + 2.17182I$ $b = 0.44077 + 1.34783I$	$-4.48521 + 6.86672I$	0
$u = 1.203600 + 0.344486I$ $a = -0.387817 + 0.567429I$ $b = 0.500645 + 1.141340I$	$2.30617 + 11.65450I$	0
$u = 1.203600 - 0.344486I$ $a = -0.387817 - 0.567429I$ $b = 0.500645 - 1.141340I$	$2.30617 - 11.65450I$	0
$u = -0.662167 + 0.294205I$ $a = 0.461786 + 0.309921I$ $b = -0.610997 + 1.105130I$	$2.64706 - 4.13307I$	$10.06650 + 7.67107I$
$u = -0.662167 - 0.294205I$ $a = 0.461786 - 0.309921I$ $b = -0.610997 - 1.105130I$	$2.64706 + 4.13307I$	$10.06650 - 7.67107I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.297470 + 1.255920I$ $a = -0.254293 - 0.144773I$ $b = -1.077280 - 0.185503I$	$-3.52274 + 6.07547I$	0
$u = 0.297470 - 1.255920I$ $a = -0.254293 + 0.144773I$ $b = -1.077280 + 0.185503I$	$-3.52274 - 6.07547I$	0
$u = 0.689327 + 0.123250I$ $a = 0.062912 + 1.059920I$ $b = 0.395529 + 0.164925I$	$0.06236 - 2.46466I$	$6.83396 + 3.77647I$
$u = 0.689327 - 0.123250I$ $a = 0.062912 - 1.059920I$ $b = 0.395529 - 0.164925I$	$0.06236 + 2.46466I$	$6.83396 - 3.77647I$
$u = 0.226747 + 1.282130I$ $a = -0.093690 - 0.200426I$ $b = 0.679000 - 0.036087I$	$-4.40326 + 0.41121I$	0
$u = 0.226747 - 1.282130I$ $a = -0.093690 + 0.200426I$ $b = 0.679000 + 0.036087I$	$-4.40326 - 0.41121I$	0
$u = -0.366588 + 1.260050I$ $a = 0.098420 - 0.273942I$ $b = 0.880454 + 0.085541I$	$-2.11426 - 4.00334I$	0
$u = -0.366588 - 1.260050I$ $a = 0.098420 + 0.273942I$ $b = 0.880454 - 0.085541I$	$-2.11426 + 4.00334I$	0
$u = -0.099264 + 1.314460I$ $a = 0.406154 + 0.976917I$ $b = 0.732172 + 0.382522I$	$0.50203 + 2.48920I$	0
$u = -0.099264 - 1.314460I$ $a = 0.406154 - 0.976917I$ $b = 0.732172 - 0.382522I$	$0.50203 - 2.48920I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.173406 + 1.315340I$ $a = -0.96739 + 1.70783I$ $b = 0.294787 + 1.239180I$	$-8.25891 + 3.00812I$	0
$u = 0.173406 - 1.315340I$ $a = -0.96739 - 1.70783I$ $b = 0.294787 - 1.239180I$	$-8.25891 - 3.00812I$	0
$u = -0.409443 + 1.263900I$ $a = 0.49046 + 1.63199I$ $b = -0.65824 + 1.38913I$	$-1.10942 - 9.46579I$	0
$u = -0.409443 - 1.263900I$ $a = 0.49046 - 1.63199I$ $b = -0.65824 - 1.38913I$	$-1.10942 + 9.46579I$	0
$u = 0.050986 + 1.328260I$ $a = 0.22173 + 1.98084I$ $b = -0.21254 + 1.53110I$	$-6.21226 + 5.37580I$	0
$u = 0.050986 - 1.328260I$ $a = 0.22173 - 1.98084I$ $b = -0.21254 - 1.53110I$	$-6.21226 - 5.37580I$	0
$u = 0.232857 + 1.345360I$ $a = -0.25117 + 2.15847I$ $b = 0.313690 + 1.368680I$	$-5.14196 + 5.75508I$	0
$u = 0.232857 - 1.345360I$ $a = -0.25117 - 2.15847I$ $b = 0.313690 - 1.368680I$	$-5.14196 - 5.75508I$	0
$u = -0.500434 + 0.387851I$ $a = 0.492345 + 0.241918I$ $b = -0.431811 + 0.295599I$	$0.948430 - 0.603776I$	$9.01347 + 4.18465I$
$u = -0.500434 - 0.387851I$ $a = 0.492345 - 0.241918I$ $b = -0.431811 - 0.295599I$	$0.948430 + 0.603776I$	$9.01347 - 4.18465I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.042870 + 1.391350I$ $a = -0.08872 - 1.61352I$ $b = 0.455918 - 1.278250I$	$-6.14811 - 0.65193I$	0
$u = 0.042870 - 1.391350I$ $a = -0.08872 + 1.61352I$ $b = 0.455918 + 1.278250I$	$-6.14811 + 0.65193I$	0
$u = -0.359631 + 1.348720I$ $a = -0.470643 + 0.056389I$ $b = -1.242270 - 0.193872I$	$0.23737 - 11.07660I$	0
$u = -0.359631 - 1.348720I$ $a = -0.470643 - 0.056389I$ $b = -1.242270 + 0.193872I$	$0.23737 + 11.07660I$	0
$u = 0.596230 + 0.035731I$ $a = 0.684599 + 0.947731I$ $b = -0.411492 + 0.980008I$	$-0.80790 - 2.80909I$	$5.98332 - 0.21201I$
$u = 0.596230 - 0.035731I$ $a = 0.684599 - 0.947731I$ $b = -0.411492 - 0.980008I$	$-0.80790 + 2.80909I$	$5.98332 + 0.21201I$
$u = 0.417303 + 0.405708I$ $a = 0.14693 + 2.04390I$ $b = 0.765463 + 0.496537I$	$4.56662 - 0.11637I$	$12.84009 - 2.25680I$
$u = 0.417303 - 0.405708I$ $a = 0.14693 - 2.04390I$ $b = 0.765463 - 0.496537I$	$4.56662 + 0.11637I$	$12.84009 + 2.25680I$
$u = -0.26413 + 1.40109I$ $a = -0.28448 - 1.99461I$ $b = 0.66711 - 1.46071I$	$-2.71748 - 7.52821I$	0
$u = -0.26413 - 1.40109I$ $a = -0.28448 + 1.99461I$ $b = 0.66711 + 1.46071I$	$-2.71748 + 7.52821I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.10686 + 1.50124I$ $a = -0.245884 + 1.141140I$ $b = 0.783069 + 1.067070I$	$-5.72875 + 3.11452I$	0
$u = 0.10686 - 1.50124I$ $a = -0.245884 - 1.141140I$ $b = 0.783069 - 1.067070I$	$-5.72875 - 3.11452I$	0
$u = -0.22724 + 1.49618I$ $a = -0.81530 - 1.31196I$ $b = -0.020931 - 0.994862I$	$-3.17742 + 0.08844I$	0
$u = -0.22724 - 1.49618I$ $a = -0.81530 + 1.31196I$ $b = -0.020931 + 0.994862I$	$-3.17742 - 0.08844I$	0
$u = 0.54898 + 1.41093I$ $a = -0.82747 + 1.53406I$ $b = 0.517955 + 1.251330I$	$-5.61570 + 9.08985I$	0
$u = 0.54898 - 1.41093I$ $a = -0.82747 - 1.53406I$ $b = 0.517955 - 1.251330I$	$-5.61570 - 9.08985I$	0
$u = -1.41382 + 0.54274I$ $a = -0.150367 - 0.669536I$ $b = 0.207903 - 1.033730I$	$-2.09582 - 4.89045I$	0
$u = -1.41382 - 0.54274I$ $a = -0.150367 + 0.669536I$ $b = 0.207903 + 1.033730I$	$-2.09582 + 4.89045I$	0
$u = -0.68545 + 1.36638I$ $a = 0.30951 + 1.38848I$ $b = -0.088050 + 0.737680I$	$1.18894 + 2.12493I$	0
$u = -0.68545 - 1.36638I$ $a = 0.30951 - 1.38848I$ $b = -0.088050 - 0.737680I$	$1.18894 - 2.12493I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.48985 + 1.50866I$ $a = 0.52759 - 1.65020I$ $b = -0.63184 - 1.35216I$	$-3.4892 + 17.6295I$	0
$u = 0.48985 - 1.50866I$ $a = 0.52759 + 1.65020I$ $b = -0.63184 + 1.35216I$	$-3.4892 - 17.6295I$	0
$u = 0.386003 + 0.111568I$ $a = 0.72617 - 1.21676I$ $b = -1.015930 - 0.376348I$	$4.95207 + 1.65937I$	$17.2147 - 3.6067I$
$u = 0.386003 - 0.111568I$ $a = 0.72617 + 1.21676I$ $b = -1.015930 + 0.376348I$	$4.95207 - 1.65937I$	$17.2147 + 3.6067I$
$u = -0.48750 + 1.53880I$ $a = 0.43487 + 1.58941I$ $b = -0.44392 + 1.36956I$	$-8.42324 - 11.27470I$	0
$u = -0.48750 - 1.53880I$ $a = 0.43487 - 1.58941I$ $b = -0.44392 - 1.36956I$	$-8.42324 + 11.27470I$	0
$u = 1.29645 + 0.97439I$ $a = -0.150528 + 0.680017I$ $b = -0.180507 + 0.936717I$	$0.43071 - 3.88005I$	0
$u = 1.29645 - 0.97439I$ $a = -0.150528 - 0.680017I$ $b = -0.180507 - 0.936717I$	$0.43071 + 3.88005I$	0
$u = 0.360463 + 0.104511I$ $a = 1.71701 + 1.38281I$ $b = 0.099604 - 1.152090I$	$-3.81257 + 0.89485I$	$-2.25949 - 1.18834I$
$u = 0.360463 - 0.104511I$ $a = 1.71701 - 1.38281I$ $b = 0.099604 + 1.152090I$	$-3.81257 - 0.89485I$	$-2.25949 + 1.18834I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.67498 + 1.51204I$ $a = 0.37015 - 1.38509I$ $b = -0.106244 - 1.278550I$	$-5.01653 + 3.29033I$	0
$u = 0.67498 - 1.51204I$ $a = 0.37015 + 1.38509I$ $b = -0.106244 + 1.278550I$	$-5.01653 - 3.29033I$	0
$u = -0.46654 + 1.63346I$ $a = -0.45448 - 1.42613I$ $b = 0.380524 - 1.198130I$	$-7.86731 - 4.29450I$	0
$u = -0.46654 - 1.63346I$ $a = -0.45448 + 1.42613I$ $b = 0.380524 + 1.198130I$	$-7.86731 + 4.29450I$	0
$u = -0.176850 + 0.211457I$ $a = -0.89004 + 2.77259I$ $b = -0.176063 - 1.280020I$	$-1.21164 + 5.29604I$	$2.45054 - 8.48280I$
$u = -0.176850 - 0.211457I$ $a = -0.89004 - 2.77259I$ $b = -0.176063 + 1.280020I$	$-1.21164 - 5.29604I$	$2.45054 + 8.48280I$

II. $\boldsymbol{I_2^u = \langle 6846u^{19} - 8204u^{18} + \cdots + 20003b - 10945,\ -1.03 \times 10^6u^{19} - 1.46 \times 10^6u^{18} + \cdots + 1.18 \times 10^6a - 4.01 \times 10^6,\ u^{20} + 8u^{18} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.876608u^{19} + 1.23577u^{18} + \cdots + 8.53335u + 3.40036\\-0.342249u^{19} + 0.410138u^{18} + \cdots - 6.46158u + 0.547168\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-1.40383u^{19} - 0.0923734u^{18} + \cdots - 20.8719u + 3.90800\\0.167425u^{19} - 0.0554417u^{18} + \cdots + 6.79533u - 1.60261\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1.36417u^{19} + 0.513748u^{18} + \cdots + 15.8727u + 4.11256\\-0.305317u^{19} - 0.405635u^{18} + \cdots - 3.25843u - 1.02408\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1.21886u^{19} + 0.825630u^{18} + \cdots + 14.9949u + 2.85319\\-0.342249u^{19} + 0.410138u^{18} + \cdots - 6.46158u + 0.547168\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.174699u^{19} - 0.367753u^{18} + \cdots + 16.3113u - 10.5613\\-0.0369317u^{19} - 0.184227u^{18} + \cdots + 0.796852u + 1.57125\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u\\u^3 + u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1.94985u^{19} - 0.957305u^{18} + \cdots + 31.9571u - 11.4011\\-0.576662u^{19} + 0.967471u^{18} + \cdots - 7.65168u + 3.29611\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-1.29989u^{19} - 0.143133u^{18} + \cdots - 20.2101u + 4.10267\\-0.0511322u^{19} - 0.298609u^{18} + \cdots + 6.38976u - 1.84804\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-1.29989u^{19} - 0.143133u^{18} + \cdots - 20.2101u + 4.10267\\-0.0511322u^{19} - 0.298609u^{18} + \cdots + 6.38976u - 1.84804\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{296410}{1180177}u^{19} - \frac{1621082}{1180177}u^{18} + \cdots - \frac{15966826}{1180177}u + \frac{14861551}{1180177}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - u^{19} + \cdots + 3u + 1$
c_2	$u^{20} + 8u^{18} + \cdots - 3u + 1$
c_3	$u^{20} + 3u^{19} + \cdots - 2u + 1$
c_4	$u^{20} - 7u^{18} + \cdots - 4u + 1$
c_5	$u^{20} + u^{19} + \cdots - 3u + 1$
c_6	$u^{20} - 8u^{18} + \cdots + 2u + 3$
c_7	$u^{20} - u^{19} + \cdots - 3u + 1$
c_8	$u^{20} + 8u^{18} + \cdots + 3u + 1$
c_9	$u^{20} - 3u^{18} + \cdots - 6u + 1$
c_{10}	$u^{20} - 8u^{18} + \cdots - 2u + 3$
c_{11}	$u^{20} - 4u^{17} + \cdots - 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{20} + 9y^{19} + \cdots + 15y + 1$
c_2, c_8	$y^{20} + 16y^{19} + \cdots + 27y + 1$
c_3	$y^{20} - 11y^{19} + \cdots + 16y + 1$
c_4	$y^{20} - 14y^{19} + \cdots - 4y + 1$
c_6, c_{10}	$y^{20} - 16y^{19} + \cdots + 62y + 9$
c_7	$y^{20} + 5y^{19} + \cdots + 5y + 1$
c_9	$y^{20} - 6y^{19} + \cdots - 26y + 1$
c_{11}	$y^{20} + 12y^{18} + \cdots - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.946175 + 0.385588I$ $a = 0.214235 + 0.558661I$ $b = -0.269177 + 1.077330I$	$-0.64266 - 3.90221I$	$3.24651 + 7.37049I$
$u = 0.946175 - 0.385588I$ $a = 0.214235 - 0.558661I$ $b = -0.269177 - 1.077330I$	$-0.64266 + 3.90221I$	$3.24651 - 7.37049I$
$u = -0.310493 + 0.924049I$ $a = -0.38415 - 1.67139I$ $b = -0.122898 + 0.479259I$	$1.71598 - 6.19605I$	$8.61255 + 6.55788I$
$u = -0.310493 - 0.924049I$ $a = -0.38415 + 1.67139I$ $b = -0.122898 - 0.479259I$	$1.71598 + 6.19605I$	$8.61255 - 6.55788I$
$u = 0.591462 + 0.713970I$ $a = -0.402644 - 0.443888I$ $b = -0.208294 - 0.706719I$	$-1.58446 + 3.70556I$	$-0.94050 - 4.83089I$
$u = 0.591462 - 0.713970I$ $a = -0.402644 + 0.443888I$ $b = -0.208294 + 0.706719I$	$-1.58446 - 3.70556I$	$-0.94050 + 4.83089I$
$u = 0.002874 + 1.212570I$ $a = 0.870653 - 0.229034I$ $b = 1.42573 + 0.06190I$	$1.65051 - 1.14565I$	$6.04640 + 4.20488I$
$u = 0.002874 - 1.212570I$ $a = 0.870653 + 0.229034I$ $b = 1.42573 - 0.06190I$	$1.65051 + 1.14565I$	$6.04640 - 4.20488I$
$u = -0.002126 + 0.708303I$ $a = -0.640262 + 0.910371I$ $b = -0.901962 + 0.053941I$	$3.67242 + 1.15933I$	$9.29729 - 1.48128I$
$u = -0.002126 - 0.708303I$ $a = -0.640262 - 0.910371I$ $b = -0.901962 - 0.053941I$	$3.67242 - 1.15933I$	$9.29729 + 1.48128I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.273746 + 1.297500I$ $a = -0.66833 + 2.18325I$ $b = 0.48471 + 1.43675I$	$-3.70849 + 7.77575I$	$1.98042 - 8.91503I$
$u = 0.273746 - 1.297500I$ $a = -0.66833 - 2.18325I$ $b = 0.48471 - 1.43675I$	$-3.70849 - 7.77575I$	$1.98042 + 8.91503I$
$u = -0.15872 + 1.40819I$ $a = -0.46639 - 1.33897I$ $b = 0.520872 - 1.129990I$	$-7.04665 - 2.30270I$	$-1.55456 + 0.79605I$
$u = -0.15872 - 1.40819I$ $a = -0.46639 + 1.33897I$ $b = 0.520872 + 1.129990I$	$-7.04665 + 2.30270I$	$-1.55456 - 0.79605I$
$u = -0.85387 + 1.18820I$ $a = 0.71330 + 1.27008I$ $b = -0.028808 + 0.787340I$	$0.96215 + 2.51362I$	$0.64139 - 9.41977I$
$u = -0.85387 - 1.18820I$ $a = 0.71330 - 1.27008I$ $b = -0.028808 - 0.787340I$	$0.96215 - 2.51362I$	$0.64139 + 9.41977I$
$u = -0.56839 + 1.35898I$ $a = -0.46559 - 1.52661I$ $b = 0.125964 - 1.327280I$	$-4.70501 - 3.26631I$	$10.94198 + 7.13391I$
$u = -0.56839 - 1.35898I$ $a = -0.46559 + 1.52661I$ $b = 0.125964 + 1.327280I$	$-4.70501 + 3.26631I$	$10.94198 - 7.13391I$
$u = 0.079342 + 0.301023I$ $a = 2.72917 + 2.48490I$ $b = -0.526131 - 0.810997I$	$3.10647 + 2.21537I$	$10.72853 - 2.81043I$
$u = 0.079342 - 0.301023I$ $a = 2.72917 - 2.48490I$ $b = -0.526131 + 0.810997I$	$3.10647 - 2.21537I$	$10.72853 + 2.81043I$

III. $\boldsymbol{I^u_3 = \langle u^2 + b,\ a - 1,\ u^7 + u^5 + u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ u^4 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^6 - u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^5 + 2u^3 + u + 1 \\ -u^5 - u^3 - u^2 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5	$y^7 - 2y^6 - 3y^5 + 2y^4 + 10y^3 + 8y^2 + y - 1$
c_2, c_8, c_{11}	$y^7 + 2y^6 + y^5 + 2y^4 + 2y^3 + y - 1$
c_4	$y^7 - 10y^6 + 37y^5 - 30y^4 + 58y^3 - 40y^2 + 17y - 1$
c_6, c_{10}	$(y-1)^7$
c_7, c_9	$y^7 + 6y^6 + 17y^5 + 14y^4 - 14y^3 - 28y^2 - 15y - 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.862570 + 0.551757I$ $a = 1.00000$ $b = -0.439591 - 0.951858I$	1.64493	6.00000
$u = 0.862570 - 0.551757I$ $a = 1.00000$ $b = -0.439591 + 0.951858I$	1.64493	6.00000
$u = -0.588920 + 0.721443I$ $a = 1.00000$ $b = 0.173654 + 0.849744I$	1.64493	6.00000
$u = -0.588920 - 0.721443I$ $a = 1.00000$ $b = 0.173654 - 0.849744I$	1.64493	6.00000
$u = 0.084251 + 1.236620I$ $a = 1.00000$ $b = 1.52212 - 0.20837I$	1.64493	6.00000
$u = 0.084251 - 1.236620I$ $a = 1.00000$ $b = 1.52212 + 0.20837I$	1.64493	6.00000
$u = -0.715802$ $a = 1.00000$ $b = -0.512372$	1.64493	6.00000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^7+2u^6+u^5+2u^4+2u^3+u-1)(u^{20}-u^{19}+\cdots+3u+1)$ $\cdot(u^{86}-2u^{85}+\cdots+4061u+367)$
c_2	$(u^7+u^5+u-1)(u^{20}+8u^{18}+\cdots-3u+1)$ $\cdot(u^{86}+u^{85}+\cdots+4313u+839)$
c_3	$(u^7+2u^6+u^5+2u^4+2u^3+u-1)(u^{20}+3u^{19}+\cdots-2u+1)$ $\cdot(u^{86}-10u^{85}+\cdots-578u+79)$
c_4	$(u^7+2u^6+\cdots+u+1)(u^{20}-7u^{18}+\cdots-4u+1)$ $\cdot(u^{86}-5u^{85}+\cdots+16u+1)$
c_5	$(u^7+2u^6+u^5+2u^4+2u^3+u-1)(u^{20}+u^{19}+\cdots-3u+1)$ $\cdot(u^{86}-2u^{85}+\cdots+4061u+367)$
c_6	$((u-1)^7)(u^{20}-8u^{18}+\cdots+2u+3)(u^{86}+6u^{85}+\cdots-2700u+200)$
c_7	$(u^7+3u^5+\cdots+3u-2)(u^{20}-u^{19}+\cdots-3u+1)$ $\cdot(u^{86}+4u^{85}+\cdots+379u+169)$
c_8	$(u^7+u^5+u-1)(u^{20}+8u^{18}+\cdots+3u+1)$ $\cdot(u^{86}+u^{85}+\cdots+4313u+839)$
c_9	$(u^7+3u^5+\cdots+3u-2)(u^{20}-3u^{18}+\cdots-6u+1)$ $\cdot(u^{86}+u^{85}+\cdots+760266u+130321)$
c_{10}	$((u-1)^7)(u^{20}-8u^{18}+\cdots-2u+3)(u^{86}+6u^{85}+\cdots-2700u+200)$
c_{11}	$(u^7+u^5+u-1)(u^{20}-4u^{17}+\cdots-2u^2+1)$ $\cdot(u^{86}+5u^{85}+\cdots+690u+179)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^7 - 2y^6 + \cdots + y - 1)(y^{20} + 9y^{19} + \cdots + 15y + 1)$ $\cdot (y^{86} + 58y^{85} + \cdots - 1366917y + 134689)$
c_2, c_8	$(y^7 + 2y^6 + y^5 + 2y^4 + 2y^3 + y - 1)(y^{20} + 16y^{19} + \cdots + 27y + 1)$ $\cdot (y^{86} + 73y^{85} + \cdots - 7899685y + 703921)$
c_3	$(y^7 - 2y^6 - 3y^5 + 2y^4 + 10y^3 + 8y^2 + y - 1)$ $\cdot (y^{20} - 11y^{19} + \cdots + 16y + 1)(y^{86} - 14y^{85} + \cdots - 153964y + 6241)$
c_4	$(y^7 - 10y^6 + 37y^5 - 30y^4 + 58y^3 - 40y^2 + 17y - 1)$ $\cdot (y^{20} - 14y^{19} + \cdots - 4y + 1)(y^{86} - 5y^{85} + \cdots + 200y + 1)$
c_6, c_{10}	$((y - 1)^7)(y^{20} - 16y^{19} + \cdots + 62y + 9)$ $\cdot (y^{86} - 58y^{85} + \cdots - 4211600y + 40000)$
c_7	$(y^7 + 6y^6 + 17y^5 + 14y^4 - 14y^3 - 28y^2 - 15y - 4)$ $\cdot (y^{20} + 5y^{19} + \cdots + 5y + 1)(y^{86} + 14y^{85} + \cdots + 1122169y + 28561)$
c_9	$(y^7 + 6y^6 + 17y^5 + 14y^4 - 14y^3 - 28y^2 - 15y - 4)$ $\cdot (y^{20} - 6y^{19} + \cdots - 26y + 1)$ $\cdot (y^{86} + 15y^{85} + \cdots + 56388593490y + 16983563041)$
c_{11}	$(y^7 + 2y^6 + y^5 + 2y^4 + 2y^3 + y - 1)(y^{20} + 12y^{18} + \cdots - 4y + 1)$ $\cdot (y^{86} - 19y^{85} + \cdots - 1161312y + 32041)$