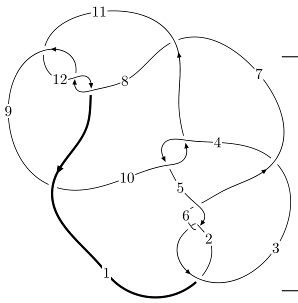
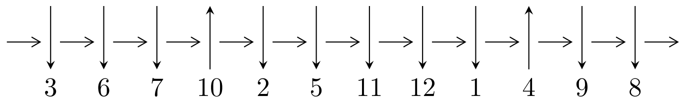
$12a_{0237}$ ($K12a_{0237}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 19u^{88} + 68u^{87} + \cdots + 2b - 19,\ 41u^{88} + 118u^{87} + \cdots + 4a - 37,\ u^{89} + 4u^{88} + \cdots - 2u - 1\rangle$$
$$I_2^u = \langle b,\ u^2 + a - u,\ u^3 - u^2 + 1\rangle$$
$$I_3^u = \langle b,\ -u^2a + a^2 + 2au + u^2 - a - 2u + 2,\ u^3 - u^2 + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 98 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. $\boldsymbol{I_1^u = \langle 19u^{88} + 68u^{87} + \cdots + 2b - 19,\ 41u^{88} + 118u^{87} + \cdots + 4a - 37,\ u^{89} + 4u^{88} + \cdots - 2u - 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -10.2500u^{88} - 29.5000u^{87} + \cdots + 19.7500u + 9.25000 \\ -\frac{19}{2}u^{88} - 34u^{87} + \cdots + \frac{25}{2}u + \frac{19}{2} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^7 - 2u^5 + 2u^3 - 2u \\ -u^7 + u^5 - 2u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{7}{4}u^{88} - \frac{13}{2}u^{87} + \cdots + \frac{45}{4}u + \frac{15}{4} \\ -\frac{11}{2}u^{88} - 17u^{87} + \cdots + \frac{11}{2}u + \frac{9}{2} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{1}{4}u^{86} - \frac{3}{4}u^{85} + \cdots - \frac{9}{2}u - \frac{1}{4} \\ u^{19} - 3u^{17} + \cdots + 4u^2 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -4u^{88} - \frac{31}{4}u^{87} + \cdots + \frac{45}{4}u + \frac{7}{4} \\ -10u^{88} - \frac{141}{4}u^{87} + \cdots + \frac{49}{4}u + 10 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -2.75000u^{88} - 10.2500u^{87} + \cdots + 5.50000u + 3.75000 \\ -\frac{3}{4}u^{88} - 3u^{87} + \cdots + \frac{7}{4}u + \frac{3}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{21}{4}u^{88} - \frac{3}{2}u^{87} + \cdots + \frac{3}{4}u - \frac{43}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{89} + 30u^{88} + \cdots + 22u + 1$
c_2, c_5	$u^{89} + 4u^{88} + \cdots - 2u - 1$
c_3	$u^{89} - 4u^{88} + \cdots + 239908u - 33529$
c_4, c_{10}	$u^{89} + u^{88} + \cdots - 512u - 512$
c_7, c_9	$u^{89} + 4u^{88} + \cdots + 1894u - 1153$
c_8, c_{11}, c_{12}	$u^{89} - 4u^{88} + \cdots + 6u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{89} + 62y^{88} + \cdots + 22y - 1$
c_2, c_5	$y^{89} - 30y^{88} + \cdots + 22y - 1$
c_3	$y^{89} - 22y^{88} + \cdots + 45929667714y - 1124193841$
c_4, c_{10}	$y^{89} + 49y^{88} + \cdots - 1441792y - 262144$
c_7, c_9	$y^{89} - 62y^{88} + \cdots + 27110742y - 1329409$
c_8, c_{11}, c_{12}	$y^{89} + 74y^{88} + \cdots + 30y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.665098 + 0.736201I$ $a = -2.04567 + 0.09619I$ $b = 1.031150 - 0.413779I$	$3.81291 + 4.32866I$	0
$u = 0.665098 - 0.736201I$ $a = -2.04567 - 0.09619I$ $b = 1.031150 + 0.413779I$	$3.81291 - 4.32866I$	0
$u = -0.657778 + 0.734759I$ $a = -0.725421 + 0.405756I$ $b = 0.402837 - 1.044420I$	$0.93377 - 2.14563I$	0
$u = -0.657778 - 0.734759I$ $a = -0.725421 - 0.405756I$ $b = 0.402837 + 1.044420I$	$0.93377 + 2.14563I$	0
$u = 0.980843 + 0.086293I$ $a = -0.70129 - 2.02231I$ $b = 0.291124 - 0.918013I$	$1.33318 - 3.91642I$	0
$u = 0.980843 - 0.086293I$ $a = -0.70129 + 2.02231I$ $b = 0.291124 + 0.918013I$	$1.33318 + 3.91642I$	0
$u = -0.622649 + 0.814057I$ $a = -0.871261 + 0.985715I$ $b = 0.515547 - 1.251660I$	$-0.49843 - 1.88979I$	0
$u = -0.622649 - 0.814057I$ $a = -0.871261 - 0.985715I$ $b = 0.515547 + 1.251660I$	$-0.49843 + 1.88979I$	0
$u = -0.768023 + 0.686722I$ $a = -0.724642 - 0.578489I$ $b = 0.323205 - 0.806686I$	$5.23614 + 4.30736I$	0
$u = -0.768023 - 0.686722I$ $a = -0.724642 + 0.578489I$ $b = 0.323205 + 0.806686I$	$5.23614 - 4.30736I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.03188$ $a = -0.0355121$ $b = 1.11414$	-5.58476	0
$u = 1.034010 + 0.032699I$ $a = 0.23039 + 1.73297I$ $b = -0.120130 + 1.118900I$	$-4.50330 - 1.81687I$	0
$u = 1.034010 - 0.032699I$ $a = 0.23039 - 1.73297I$ $b = -0.120130 - 1.118900I$	$-4.50330 + 1.81687I$	0
$u = -1.035150 + 0.037143I$ $a = 0.0343861 - 0.0464883I$ $b = -1.122200 + 0.136653I$	$-1.64597 + 4.03937I$	0
$u = -1.035150 - 0.037143I$ $a = 0.0343861 + 0.0464883I$ $b = -1.122200 - 0.136653I$	$-1.64597 - 4.03937I$	0
$u = 0.670295 + 0.692497I$ $a = 1.99520 + 0.06922I$ $b = -0.983619 + 0.337300I$	$-0.556520 + 0.407753I$	0
$u = 0.670295 - 0.692497I$ $a = 1.99520 - 0.06922I$ $b = -0.983619 - 0.337300I$	$-0.556520 - 0.407753I$	0
$u = -0.708378 + 0.649385I$ $a = 0.392593 + 0.131712I$ $b = -0.289547 + 0.912350I$	$0.026352 + 1.300830I$	0
$u = -0.708378 - 0.649385I$ $a = 0.392593 - 0.131712I$ $b = -0.289547 - 0.912350I$	$0.026352 - 1.300830I$	0
$u = -0.703613 + 0.778044I$ $a = 1.216460 - 0.392276I$ $b = -0.559424 + 0.979921I$	$7.16499 - 3.56308I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.703613 - 0.778044I$ $a = 1.216460 + 0.392276I$ $b = -0.559424 - 0.979921I$	$7.16499 + 3.56308I$	0
$u = -0.640493 + 0.833726I$ $a = 1.05340 - 1.04636I$ $b = -0.603287 + 1.253220I$	$-3.50348 - 6.24276I$	0
$u = -0.640493 - 0.833726I$ $a = 1.05340 + 1.04636I$ $b = -0.603287 - 1.253220I$	$-3.50348 + 6.24276I$	0
$u = -0.653882 + 0.843277I$ $a = -1.17714 + 1.06230I$ $b = 0.660390 - 1.239850I$	$1.16258 - 10.50880I$	0
$u = -0.653882 - 0.843277I$ $a = -1.17714 - 1.06230I$ $b = 0.660390 + 1.239850I$	$1.16258 + 10.50880I$	0
$u = 0.698557 + 0.606933I$ $a = -1.92976 - 0.37749I$ $b = 0.915231 - 0.247432I$	$2.82781 - 3.35710I$	0
$u = 0.698557 - 0.606933I$ $a = -1.92976 + 0.37749I$ $b = 0.915231 + 0.247432I$	$2.82781 + 3.35710I$	0
$u = -0.898385 + 0.216130I$ $a = 0.191622 + 0.064917I$ $b = 0.615325 - 0.618028I$	$2.07941 + 0.28742I$	0
$u = -0.898385 - 0.216130I$ $a = 0.191622 - 0.064917I$ $b = 0.615325 + 0.618028I$	$2.07941 - 0.28742I$	0
$u = 0.814305 + 0.722904I$ $a = -1.196290 + 0.024448I$ $b = 0.627639 - 0.337419I$	$3.08933 - 1.87082I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.814305 - 0.722904I$ $a = -1.196290 - 0.024448I$ $b = 0.627639 + 0.337419I$	$3.08933 + 1.87082I$	0
$u = 0.778626 + 0.785998I$ $a = 1.49237 - 0.51937I$ $b = -0.712326 + 0.642047I$	$8.26445 - 1.33060I$	0
$u = 0.778626 - 0.785998I$ $a = 1.49237 + 0.51937I$ $b = -0.712326 - 0.642047I$	$8.26445 + 1.33060I$	0
$u = 1.108700 + 0.091677I$ $a = 0.537648 + 1.228530I$ $b = -0.38014 + 1.38254I$	$-6.81978 - 1.15961I$	0
$u = 1.108700 - 0.091677I$ $a = 0.537648 - 1.228530I$ $b = -0.38014 - 1.38254I$	$-6.81978 + 1.15961I$	0
$u = 1.110290 + 0.116335I$ $a = -0.669920 - 1.203260I$ $b = 0.48155 - 1.36931I$	$-10.06680 - 5.64201I$	0
$u = 1.110290 - 0.116335I$ $a = -0.669920 + 1.203260I$ $b = 0.48155 + 1.36931I$	$-10.06680 + 5.64201I$	0
$u = 1.108410 + 0.135230I$ $a = 0.76874 + 1.19898I$ $b = -0.55540 + 1.34349I$	$-5.55538 - 10.02820I$	0
$u = 1.108410 - 0.135230I$ $a = 0.76874 - 1.19898I$ $b = -0.55540 - 1.34349I$	$-5.55538 + 10.02820I$	0
$u = -1.030150 + 0.494674I$ $a = -0.876736 - 0.166610I$ $b = -0.335632 + 1.344360I$	$-3.37677 - 3.18871I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.030150 - 0.494674I$ $a = -0.876736 + 0.166610I$ $b = -0.335632 - 1.344360I$	$-3.37677 + 3.18871I$	0
$u = -0.942079 + 0.666791I$ $a = 1.47608 - 1.11163I$ $b = -0.189828 - 0.916225I$	$4.69575 + 0.92514I$	0
$u = -0.942079 - 0.666791I$ $a = 1.47608 + 1.11163I$ $b = -0.189828 + 0.916225I$	$4.69575 - 0.92514I$	0
$u = 0.910609 + 0.709843I$ $a = 0.648660 + 0.795037I$ $b = -0.625327 - 0.220194I$	$2.79557 - 3.60260I$	0
$u = 0.910609 - 0.709843I$ $a = 0.648660 - 0.795037I$ $b = -0.625327 + 0.220194I$	$2.79557 + 3.60260I$	0
$u = -1.032420 + 0.521949I$ $a = 0.998098 + 0.125232I$ $b = 0.244161 - 1.372840I$	$-7.60185 + 1.18273I$	0
$u = -1.032420 - 0.521949I$ $a = 0.998098 - 0.125232I$ $b = 0.244161 + 1.372840I$	$-7.60185 - 1.18273I$	0
$u = 0.977260 + 0.642109I$ $a = 1.13887 + 1.21202I$ $b = -1.107430 - 0.177555I$	$1.95629 - 1.63466I$	0
$u = 0.977260 - 0.642109I$ $a = 1.13887 - 1.21202I$ $b = -1.107430 + 0.177555I$	$1.95629 + 1.63466I$	0
$u = -1.033870 + 0.550633I$ $a = -1.139480 - 0.068932I$ $b = -0.139191 + 1.390740I$	$-4.01536 + 5.61146I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.033870 - 0.550633I$ $a = -1.139480 + 0.068932I$ $b = -0.139191 - 1.390740I$	$-4.01536 - 5.61146I$	0
$u = -0.977323 + 0.651527I$ $a = -1.57298 + 0.67143I$ $b = 0.215794 + 1.090100I$	$-0.81137 + 3.80562I$	0
$u = -0.977323 - 0.651527I$ $a = -1.57298 - 0.67143I$ $b = 0.215794 - 1.090100I$	$-0.81137 - 3.80562I$	0
$u = -0.818100$ $a = -0.0728908$ $b = -0.394708$	-1.33047	-6.26310
$u = 0.863634 + 0.821328I$ $a = -0.89126 + 1.12068I$ $b = 0.229454 - 0.915155I$	$5.01336 - 6.73646I$	0
$u = 0.863634 - 0.821328I$ $a = -0.89126 - 1.12068I$ $b = 0.229454 + 0.915155I$	$5.01336 + 6.73646I$	0
$u = 0.991482 + 0.665626I$ $a = -1.04688 - 1.31650I$ $b = 1.124220 + 0.305151I$	$-1.51618 - 5.67493I$	0
$u = 0.991482 - 0.665626I$ $a = -1.04688 + 1.31650I$ $b = 1.124220 - 0.305151I$	$-1.51618 + 5.67493I$	0
$u = 0.883931 + 0.808710I$ $a = 0.629642 - 1.130690I$ $b = -0.053245 + 0.858605I$	$0.93988 - 3.01821I$	0
$u = 0.883931 - 0.808710I$ $a = 0.629642 + 1.130690I$ $b = -0.053245 - 0.858605I$	$0.93988 + 3.01821I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.953916 + 0.743058I$ $a = -0.432867 - 1.276900I$ $b = 0.701691 + 0.601056I$	$7.73056 - 4.43400I$	0
$u = 0.953916 - 0.743058I$ $a = -0.432867 + 1.276900I$ $b = 0.701691 - 0.601056I$	$7.73056 + 4.43400I$	0
$u = -1.002630 + 0.678349I$ $a = 1.92587 - 0.55060I$ $b = -0.388123 - 1.152830I$	$-0.09348 + 7.55688I$	0
$u = -1.002630 - 0.678349I$ $a = 1.92587 + 0.55060I$ $b = -0.388123 + 1.152830I$	$-0.09348 - 7.55688I$	0
$u = 1.001160 + 0.681562I$ $a = 0.98743 + 1.40192I$ $b = -1.139070 - 0.401331I$	$2.80943 - 9.75712I$	0
$u = 1.001160 - 0.681562I$ $a = 0.98743 - 1.40192I$ $b = -1.139070 + 0.401331I$	$2.80943 + 9.75712I$	0
$u = 0.908087 + 0.806141I$ $a = -0.400070 + 1.283120I$ $b = -0.142738 - 0.898129I$	$4.87611 + 0.66838I$	0
$u = 0.908087 - 0.806141I$ $a = -0.400070 - 1.283120I$ $b = -0.142738 + 0.898129I$	$4.87611 - 0.66838I$	0
$u = -0.334142 + 0.709466I$ $a = -0.708885 - 1.004210I$ $b = 0.235700 + 1.254950I$	$-2.03228 - 0.98158I$	$-8.15244 + 0.32512I$
$u = -0.334142 - 0.709466I$ $a = -0.708885 + 1.004210I$ $b = 0.235700 - 1.254950I$	$-2.03228 + 0.98158I$	$-8.15244 - 0.32512I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.994558+0.708318I$ $a=-2.21234+0.70707I$ $b=\ \ 0.527032+1.043990I$	$6.28153+9.19093I$	0
$u=-0.994558-0.708318I$ $a=-2.21234-0.70707I$ $b=\ \ 0.527032-1.043990I$	$6.28153-9.19093I$	0
$u=-0.280545+0.714141I$ $a=\ \ 0.927041+1.036670I$ $b=-0.357240-1.246760I$	$-5.44107+3.27728I$	$-11.28302-3.52350I$
$u=-0.280545-0.714141I$ $a=\ \ 0.927041-1.036670I$ $b=-0.357240+1.246760I$	$-5.44107-3.27728I$	$-11.28302+3.52350I$
$u=-0.240868+0.719772I$ $a=-1.08805-1.05758I$ $b=\ \ 0.449716+1.235920I$	$-1.06164+7.50684I$	$-6.60333-5.97406I$
$u=-0.240868-0.719772I$ $a=-1.08805+1.05758I$ $b=\ \ 0.449716-1.235920I$	$-1.06164-7.50684I$	$-6.60333+5.97406I$
$u=-1.038970+0.698574I$ $a=\ \ 2.19115-0.26374I$ $b=-0.56143-1.31339I$	$-1.75012+7.56949I$	0
$u=-1.038970-0.698574I$ $a=\ \ 2.19115+0.26374I$ $b=-0.56143+1.31339I$	$-1.75012-7.56949I$	0
$u=-1.040700+0.712007I$ $a=-2.31121+0.26737I$ $b=\ \ 0.64332+1.30166I$	$-4.71825+12.02680I$	0
$u=-1.040700-0.712007I$ $a=-2.31121-0.26737I$ $b=\ \ 0.64332-1.30166I$	$-4.71825-12.02680I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.039460 + 0.720956I$ $a = 2.38842 - 0.28813I$ $b = -0.69543 - 1.27859I$	$-0.0131 + 16.3522I$	0
$u = -1.039460 - 0.720956I$ $a = 2.38842 + 0.28813I$ $b = -0.69543 + 1.27859I$	$-0.0131 - 16.3522I$	0
$u = -0.073739 + 0.505505I$ $a = 1.62242 + 0.27322I$ $b = -0.543638 - 0.715750I$	$4.54058 + 2.15535I$	$-0.80378 - 3.90881I$
$u = -0.073739 - 0.505505I$ $a = 1.62242 - 0.27322I$ $b = -0.543638 + 0.715750I$	$4.54058 - 2.15535I$	$-0.80378 + 3.90881I$
$u = -0.307440 + 0.321395I$ $a = -0.802437 + 0.240520I$ $b = 0.145013 + 0.668762I$	$-0.428923 + 0.936179I$	$-7.41103 - 7.19001I$
$u = -0.307440 - 0.321395I$ $a = -0.802437 - 0.240520I$ $b = 0.145013 - 0.668762I$	$-0.428923 - 0.936179I$	$-7.41103 + 7.19001I$
$u = 0.366466 + 0.234966I$ $a = -2.82452 - 0.22452I$ $b = 0.616795 + 0.063462I$	$2.51458 - 3.22716I$	$-0.65676 + 4.62783I$
$u = 0.366466 - 0.234966I$ $a = -2.82452 + 0.22452I$ $b = 0.616795 - 0.063462I$	$2.51458 + 3.22716I$	$-0.65676 - 4.62783I$
$u = 0.313100$ $a = 3.11363$ $b = -0.504407$	-1.49459	-5.36230

II. $I_2^u = \langle b,\ u^2 + a - u,\ u^3 - u^2 + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^2 + 9u - 11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.877439 + 0.744862I$ $a = 0.662359 - 0.562280I$ $b = 0$	$6.04826 - 5.65624I$	$-3.31813 + 5.39661I$
$u = 0.877439 - 0.744862I$ $a = 0.662359 + 0.562280I$ $b = 0$	$6.04826 + 5.65624I$	$-3.31813 - 5.39661I$
$u = -0.754878$ $a = -1.32472$ $b = 0$	-2.22691	-18.3640

III. $\boldsymbol{I_3^u = \langle b,\ -u^2a + a^2 + 2au + u^2 - a - 2u + 2,\ u^3 - u^2 + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^2a + au - a + 3u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.877439 + 0.744862I$ $a = -0.447279 - 0.744862I$ $b = 0$	6.04826	$-2.00317 + 0.50299I$
$u = 0.877439 + 0.744862I$ $a = -0.092519 + 0.562280I$ $b = 0$	$1.91067 - 2.82812I$	$-6.28492 + 2.09676I$
$u = 0.877439 - 0.744862I$ $a = -0.447279 + 0.744862I$ $b = 0$	6.04826	$-2.00317 - 0.50299I$
$u = 0.877439 - 0.744862I$ $a = -0.092519 - 0.562280I$ $b = 0$	$1.91067 + 2.82812I$	$-6.28492 - 2.09676I$
$u = -0.754878$ $a = 1.53980 + 1.30714I$ $b = 0$	$1.91067 - 2.82812I$	$-10.21191 - 0.80415I$
$u = -0.754878$ $a = 1.53980 - 1.30714I$ $b = 0$	$1.91067 + 2.82812I$	$-10.21191 + 0.80415I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3-u^2+2u-1)^3)(u^{89}+30u^{88}+\cdots+22u+1)$
c_2	$((u^3+u^2-1)^3)(u^{89}+4u^{88}+\cdots-2u-1)$
c_3	$((u^3-u^2+2u-1)^3)(u^{89}-4u^{88}+\cdots+239908u-33529)$
c_4, c_{10}	$u^9(u^{89}+u^{88}+\cdots-512u-512)$
c_5	$((u^3-u^2+1)^3)(u^{89}+4u^{88}+\cdots-2u-1)$
c_6	$((u^3+u^2+2u+1)^3)(u^{89}+30u^{88}+\cdots+22u+1)$
c_7, c_9	$((u^3+u^2-1)^3)(u^{89}+4u^{88}+\cdots+1894u-1153)$
c_8	$((u^3-u^2+2u-1)^3)(u^{89}-4u^{88}+\cdots+6u-1)$
c_{11}, c_{12}	$((u^3+u^2+2u+1)^3)(u^{89}-4u^{88}+\cdots+6u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$((y^3+3y^2+2y-1)^3)(y^{89}+62y^{88}+\cdots+22y-1)$
c_2, c_5	$((y^3-y^2+2y-1)^3)(y^{89}-30y^{88}+\cdots+22y-1)$
c_3	$(y^3+3y^2+2y-1)^3$ $\cdot\,(y^{89}-22y^{88}+\cdots+45929667714y-1124193841)$
c_4, c_{10}	$y^9(y^{89}+49y^{88}+\cdots-1441792y-262144)$
c_7, c_9	$((y^3-y^2+2y-1)^3)(y^{89}-62y^{88}+\cdots+2.71107\times10^7y-1329409)$
c_8, c_{11}, c_{12}	$((y^3+3y^2+2y-1)^3)(y^{89}+74y^{88}+\cdots+30y-1)$