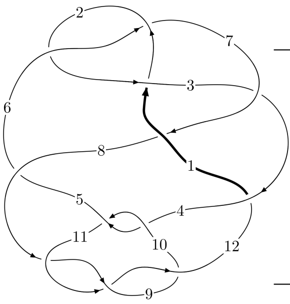
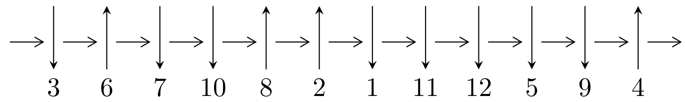
$12a_{0246}$ $(K12a_{0246})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 2u^{84} - u^{83} + \cdots + b + u,\ -2u^{84} + 2u^{83} + \cdots + a - 2,\ u^{86} - 2u^{85} + \cdots + u + 1\rangle$$
$$I_2^u = \langle -u^2 + b - 1,\ u^2 + a,\ u^4 + u^2 - u + 1\rangle$$
$$I_3^u = \langle -u^5 - u^3 + b - u - 1,\ a + u + 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 96 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.

$$I_1^u = \langle 2u^{84} - u^{83} + \cdots + b + u,\ -2u^{84} + 2u^{83} + \cdots + a - 2,\ u^{86} - 2u^{85} + \cdots + u + 1 \rangle$$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2u^{84} - 2u^{83} + \cdots - 2u^2 + 2 \\ -2u^{84} + u^{83} + \cdots + 2u^2 - u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^{16} + 3u^{14} + 5u^{12} + 4u^{10} + 3u^8 + 2u^6 + 2u^4 + 1 \\ u^{18} + 4u^{16} + 9u^{14} + 12u^{12} + 11u^{10} + 6u^8 + 2u^6 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{81} - u^{80} + \cdots + u + 1 \\ u^{83} - u^{82} + \cdots - u^3 - 2u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^8 + u^6 + u^4 + 1 \\ u^{10} + 2u^8 + 3u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{11} - 2u^9 - 2u^7 + u^3 \\ u^{11} + 3u^9 + 4u^7 + 3u^5 + u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{84} - u^{83} + \cdots + u + 2 \\ -u^{84} + u^{83} + \cdots + u^2 - u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{85} + 8u^{84} + \cdots + 13u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{86} + 42u^{85} + \cdots - 5u + 1$
c_2, c_6	$u^{86} - 2u^{85} + \cdots + u + 1$
c_3	$u^{86} + 2u^{85} + \cdots - 1288u + 1480$
c_4, c_{10}	$u^{86} - u^{85} + \cdots - 1024u - 1024$
c_5, c_{12}	$u^{86} + 6u^{85} + \cdots + 2399u + 61$
c_7	$u^{86} - 10u^{85} + \cdots - 1635u + 175$
c_8, c_9, c_{11}	$u^{86} - 11u^{85} + \cdots + 10u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{86} + 6y^{85} + \cdots - 53y + 1$
c_2, c_6	$y^{86} + 42y^{85} + \cdots - 5y + 1$
c_3	$y^{86} - 30y^{85} + \cdots - 83985424y + 2190400$
c_4, c_{10}	$y^{86} - 63y^{85} + \cdots + 524288y + 1048576$
c_5, c_{12}	$y^{86} + 78y^{85} + \cdots - 4956101y + 3721$
c_7	$y^{86} - 6y^{85} + \cdots - 286925y + 30625$
c_8, c_9, c_{11}	$y^{86} - 89y^{85} + \cdots - 20y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.288549 + 0.972974I$ $a = 1.75493 + 0.78387I$ $b = -0.71441 - 1.39976I$	$-2.22116 + 0.63715I$	0
$u = -0.288549 - 0.972974I$ $a = 1.75493 - 0.78387I$ $b = -0.71441 + 1.39976I$	$-2.22116 - 0.63715I$	0
$u = -0.594363 + 0.827888I$ $a = -0.91851 - 1.96253I$ $b = 0.014524 + 1.303580I$	$-9.68745 + 4.03436I$	0
$u = -0.594363 - 0.827888I$ $a = -0.91851 + 1.96253I$ $b = 0.014524 - 1.303580I$	$-9.68745 - 4.03436I$	0
$u = -0.638296 + 0.718655I$ $a = 0.621829 + 1.066280I$ $b = -1.11853 - 1.20118I$	$-9.35445 - 8.83622I$	0
$u = -0.638296 - 0.718655I$ $a = 0.621829 - 1.066280I$ $b = -1.11853 + 1.20118I$	$-9.35445 + 8.83622I$	0
$u = -0.555957 + 0.776754I$ $a = 1.16780 + 1.58425I$ $b = -0.34327 - 1.64073I$	$-2.77437 + 0.31938I$	0
$u = -0.555957 - 0.776754I$ $a = 1.16780 - 1.58425I$ $b = -0.34327 + 1.64073I$	$-2.77437 - 0.31938I$	0
$u = 0.581383 + 0.747816I$ $a = -0.883363 + 0.244616I$ $b = -0.160269 + 0.234378I$	$-4.82698 + 2.27835I$	$-7.05026 + 0.I$
$u = 0.581383 - 0.747816I$ $a = -0.883363 - 0.244616I$ $b = -0.160269 - 0.234378I$	$-4.82698 - 2.27835I$	$-7.05026 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.596508 + 0.722178I$ $a = -0.96022 - 1.17170I$ $b = 0.89133 + 1.57341I$	$-2.57785 - 4.86252I$	$-5.77848 + 6.73279I$
$u = -0.596508 - 0.722178I$ $a = -0.96022 + 1.17170I$ $b = 0.89133 - 1.57341I$	$-2.57785 + 4.86252I$	$-5.77848 - 6.73279I$
$u = -0.165912 + 1.053050I$ $a = -1.46305 - 1.21359I$ $b = 0.58657 + 1.44609I$	$-8.18316 + 2.86607I$	0
$u = -0.165912 - 1.053050I$ $a = -1.46305 + 1.21359I$ $b = 0.58657 - 1.44609I$	$-8.18316 - 2.86607I$	0
$u = 0.349534 + 1.027830I$ $a = -1.12480 + 0.89092I$ $b = 0.106873 - 0.233450I$	$-4.50001 + 0.99756I$	0
$u = 0.349534 - 1.027830I$ $a = -1.12480 - 0.89092I$ $b = 0.106873 + 0.233450I$	$-4.50001 - 0.99756I$	0
$u = 0.472766 + 0.978829I$ $a = 0.632946 - 0.143360I$ $b = -0.0900200 + 0.0714641I$	$-0.31789 + 2.37544I$	0
$u = 0.472766 - 0.978829I$ $a = 0.632946 + 0.143360I$ $b = -0.0900200 - 0.0714641I$	$-0.31789 - 2.37544I$	0
$u = -0.409816 + 1.044080I$ $a = -2.51537 + 0.29188I$ $b = 1.78380 + 1.41570I$	$-3.34460 - 3.00265I$	0
$u = -0.409816 - 1.044080I$ $a = -2.51537 - 0.29188I$ $b = 1.78380 - 1.41570I$	$-3.34460 + 3.00265I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.662896 + 0.554239I$ $a = -0.209758 + 0.606442I$ $b = 0.607340 + 0.402687I$	$-2.86044 + 2.76662I$	$-5.58462 - 3.68598I$
$u = 0.662896 - 0.554239I$ $a = -0.209758 - 0.606442I$ $b = 0.607340 - 0.402687I$	$-2.86044 - 2.76662I$	$-5.58462 + 3.68598I$
$u = 0.569259 + 0.995615I$ $a = -0.950968 - 0.816360I$ $b = 0.354473 - 0.196976I$	$-4.15735 + 2.02652I$	0
$u = 0.569259 - 0.995615I$ $a = -0.950968 + 0.816360I$ $b = 0.354473 + 0.196976I$	$-4.15735 - 2.02652I$	0
$u = 0.789520 + 0.286900I$ $a = 0.055631 + 0.848882I$ $b = -3.06816 - 0.09259I$	$-11.5254 - 10.8225I$	$-8.61250 + 5.48206I$
$u = 0.789520 - 0.286900I$ $a = 0.055631 - 0.848882I$ $b = -3.06816 + 0.09259I$	$-11.5254 + 10.8225I$	$-8.61250 - 5.48206I$
$u = 0.524013 + 1.035860I$ $a = 0.017411 + 0.996158I$ $b = -0.225482 - 0.283637I$	$0.34446 + 3.37846I$	0
$u = 0.524013 - 1.035860I$ $a = 0.017411 - 0.996158I$ $b = -0.225482 + 0.283637I$	$0.34446 - 3.37846I$	0
$u = -0.286242 + 1.129260I$ $a = -0.253145 + 0.710934I$ $b = 0.598687 - 0.429451I$	$-4.99538 + 0.14999I$	0
$u = -0.286242 - 1.129260I$ $a = -0.253145 - 0.710934I$ $b = 0.598687 + 0.429451I$	$-4.99538 - 0.14999I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.537821 + 0.631209I$ $a = 0.450398 - 0.045646I$ $b = 0.001813 - 0.214183I$	$0.69758 + 1.71362I$	$1.48385 - 4.15054I$
$u = 0.537821 - 0.631209I$ $a = 0.450398 + 0.045646I$ $b = 0.001813 + 0.214183I$	$0.69758 - 1.71362I$	$1.48385 + 4.15054I$
$u = -0.726874 + 0.393872I$ $a = 0.112798 + 0.574879I$ $b = 1.17469 + 0.88530I$	$-3.62779 + 4.95156I$	$-6.26943 - 4.18360I$
$u = -0.726874 - 0.393872I$ $a = 0.112798 - 0.574879I$ $b = 1.17469 - 0.88530I$	$-3.62779 - 4.95156I$	$-6.26943 + 4.18360I$
$u = -0.498379 + 1.066840I$ $a = -2.07471 + 1.96310I$ $b = 2.57897 + 0.42300I$	$-2.71273 - 3.72235I$	0
$u = -0.498379 - 1.066840I$ $a = -2.07471 - 1.96310I$ $b = 2.57897 - 0.42300I$	$-2.71273 + 3.72235I$	0
$u = 0.770621 + 0.275590I$ $a = -0.157069 - 1.026500I$ $b = 2.99026 + 0.32459I$	$-4.69326 - 6.52919I$	$-6.81472 + 5.27474I$
$u = 0.770621 - 0.275590I$ $a = -0.157069 + 1.026500I$ $b = 2.99026 - 0.32459I$	$-4.69326 + 6.52919I$	$-6.81472 - 5.27474I$
$u = -0.767665 + 0.262811I$ $a = -0.492258 + 0.383127I$ $b = -0.563795 + 1.146430I$	$-7.06528 + 3.78113I$	$-8.10408 - 2.38629I$
$u = -0.767665 - 0.262811I$ $a = -0.492258 - 0.383127I$ $b = -0.563795 - 1.146430I$	$-7.06528 - 3.78113I$	$-8.10408 + 2.38629I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.277554 + 1.162930I$ $a = -3.44039 - 1.29200I$ $b = 2.31723 - 1.08605I$	$-9.10196 - 3.37594I$	0
$u = 0.277554 - 1.162930I$ $a = -3.44039 + 1.29200I$ $b = 2.31723 + 1.08605I$	$-9.10196 + 3.37594I$	0
$u = 0.296845 + 1.162430I$ $a = 2.88869 + 1.49562I$ $b = -2.07890 + 0.99513I$	$-9.33402 + 2.30663I$	0
$u = 0.296845 - 1.162430I$ $a = 2.88869 - 1.49562I$ $b = -2.07890 - 0.99513I$	$-9.33402 - 2.30663I$	0
$u = -0.287047 + 1.165100I$ $a = 0.45506 - 1.42515I$ $b = -1.20531 + 0.95369I$	$-11.41770 + 0.56506I$	0
$u = -0.287047 - 1.165100I$ $a = 0.45506 + 1.42515I$ $b = -1.20531 - 0.95369I$	$-11.41770 - 0.56506I$	0
$u = 0.768626 + 0.218313I$ $a = 0.077135 - 1.268350I$ $b = 2.17103 + 0.10227I$	$-12.50220 + 2.89654I$	$-9.84851 - 1.14586I$
$u = 0.768626 - 0.218313I$ $a = 0.077135 + 1.268350I$ $b = 2.17103 - 0.10227I$	$-12.50220 - 2.89654I$	$-9.84851 + 1.14586I$
$u = 0.757922 + 0.251411I$ $a = 0.071124 + 1.222860I$ $b = -2.56236 - 0.49445I$	$-5.06705 - 0.94141I$	$-7.86259 - 0.41236I$
$u = 0.757922 - 0.251411I$ $a = 0.071124 - 1.222860I$ $b = -2.56236 + 0.49445I$	$-5.06705 + 0.94141I$	$-7.86259 + 0.41236I$

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.262587 + 1.173330I$ $a = 3.53054 + 0.94911I$ $b = -2.41749 + 1.15092I$	$-16.0850 - 7.6716I$	0
$u = 0.262587 - 1.173330I$ $a = 3.53054 - 0.94911I$ $b = -2.41749 - 1.15092I$	$-16.0850 + 7.6716I$	0
$u = 0.519924 + 1.085570I$ $a = 1.03946 - 1.48640I$ $b = -0.148695 + 1.038150I$	$-3.28429 + 5.87626I$	0
$u = 0.519924 - 1.085570I$ $a = 1.03946 + 1.48640I$ $b = -0.148695 - 1.038150I$	$-3.28429 - 5.87626I$	0
$u = -0.541621 + 1.081200I$ $a = 0.68625 - 1.95841I$ $b = -1.88134 + 0.43680I$	$-0.49878 - 7.28560I$	0
$u = -0.541621 - 1.081200I$ $a = 0.68625 + 1.95841I$ $b = -1.88134 - 0.43680I$	$-0.49878 + 7.28560I$	0
$u = -0.432231 + 1.134090I$ $a = 2.07510 - 0.96389I$ $b = -2.17476 - 0.86834I$	$-11.08480 - 3.93749I$	0
$u = -0.432231 - 1.134090I$ $a = 2.07510 + 0.96389I$ $b = -2.17476 + 0.86834I$	$-11.08480 + 3.93749I$	0
$u = 0.313991 + 1.175220I$ $a = -2.43370 - 1.04010I$ $b = 1.75385 - 1.21759I$	$-16.7193 + 6.3367I$	0
$u = 0.313991 - 1.175220I$ $a = -2.43370 + 1.04010I$ $b = 1.75385 + 1.21759I$	$-16.7193 - 6.3367I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.726678 + 0.290250I$ $a = 0.272140 - 0.169725I$ $b = 0.280985 - 0.574993I$	$-0.80863 + 3.09743I$	$-0.14695 - 3.21978I$
$u = -0.726678 - 0.290250I$ $a = 0.272140 + 0.169725I$ $b = 0.280985 + 0.574993I$	$-0.80863 - 3.09743I$	$-0.14695 + 3.21978I$
$u = -0.571260 + 1.092910I$ $a = 0.24119 + 1.91899I$ $b = 1.49187 - 1.07630I$	$-5.67694 - 9.90189I$	0
$u = -0.571260 - 1.092910I$ $a = 0.24119 - 1.91899I$ $b = 1.49187 + 1.07630I$	$-5.67694 + 9.90189I$	0
$u = 0.590836 + 0.487016I$ $a = 0.033582 - 0.610913I$ $b = -0.555184 + 0.176196I$	$1.95612 + 1.07254I$	$2.32786 - 4.06564I$
$u = 0.590836 - 0.487016I$ $a = 0.033582 + 0.610913I$ $b = -0.555184 - 0.176196I$	$1.95612 - 1.07254I$	$2.32786 + 4.06564I$
$u = -0.651259 + 0.383779I$ $a = -0.297043 - 0.580610I$ $b = -1.327010 - 0.235305I$	$1.52038 + 2.62568I$	$0.05256 - 5.40036I$
$u = -0.651259 - 0.383779I$ $a = -0.297043 + 0.580610I$ $b = -1.327010 + 0.235305I$	$1.52038 - 2.62568I$	$0.05256 + 5.40036I$
$u = -0.546113 + 1.127960I$ $a = -0.819362 - 0.114303I$ $b = 0.342254 + 0.774577I$	$-3.23683 - 7.93121I$	0
$u = -0.546113 - 1.127960I$ $a = -0.819362 + 0.114303I$ $b = 0.342254 - 0.774577I$	$-3.23683 + 7.93121I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.541262 + 1.146140I$ $a = 3.19594 + 2.07479I$ $b = -3.56382 + 0.39183I$	$-7.67401 + 5.81428I$	0
$u = 0.541262 - 1.146140I$ $a = 3.19594 - 2.07479I$ $b = -3.56382 - 0.39183I$	$-7.67401 - 5.81428I$	0
$u = -0.547225 + 1.147030I$ $a = 1.53697 + 0.31279I$ $b = -0.57924 - 1.56428I$	$-9.65180 - 8.70743I$	0
$u = -0.547225 - 1.147030I$ $a = 1.53697 - 0.31279I$ $b = -0.57924 + 1.56428I$	$-9.65180 + 8.70743I$	0
$u = 0.552216 + 1.145020I$ $a = -3.19958 - 2.81060I$ $b = 3.91549 - 0.11091I$	$-7.24107 + 11.48790I$	0
$u = 0.552216 - 1.145020I$ $a = -3.19958 + 2.81060I$ $b = 3.91549 + 0.11091I$	$-7.24107 - 11.48790I$	0
$u = 0.530994 + 1.156470I$ $a = -2.44372 - 1.78900I$ $b = 3.09953 - 0.05061I$	$-15.2418 + 1.9452I$	0
$u = 0.530994 - 1.156470I$ $a = -2.44372 + 1.78900I$ $b = 3.09953 + 0.05061I$	$-15.2418 - 1.9452I$	0
$u = 0.560925 + 1.148440I$ $a = 2.81719 + 3.06743I$ $b = -3.87039 - 0.10151I$	$-14.0649 + 15.8670I$	0
$u = 0.560925 - 1.148440I$ $a = 2.81719 - 3.06743I$ $b = -3.87039 + 0.10151I$	$-14.0649 - 15.8670I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.594714+0.341461I$ $a = -0.122682+1.010820I$ $b = 0.410591-0.962437I$	$-1.16613-1.42530I$	$-4.02664+0.35446I$
$u = 0.594714-0.341461I$ $a = -0.122682-1.010820I$ $b = 0.410591+0.962437I$	$-1.16613+1.42530I$	$-4.02664-0.35446I$
$u = -0.659724$ $a = -1.04511$ $b = -1.45516$	-7.94428	-10.6470
$u = -0.497755+0.426248I$ $a = 0.749388+1.023230I$ $b = 1.51286-0.69421I$	$-0.808182-0.442640I$	$-5.58197-2.36706I$
$u = -0.497755-0.426248I$ $a = 0.749388-1.023230I$ $b = 1.51286+0.69421I$	$-0.808182+0.442640I$	$-5.58197+2.36706I$
$u = -0.333193$ $a = 1.59751$ $b = 0.781978$	-0.970966	-9.92870

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -5u^3 - 4u^2 - u - 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.547424 + 0.585652I$ $a = 0.043315 - 0.641200I$ $b = 0.956685 + 0.641200I$	$-0.66484 + 1.39709I$	$-4.37800 - 4.77865I$
$u = 0.547424 - 0.585652I$ $a = 0.043315 + 0.641200I$ $b = 0.956685 - 0.641200I$	$-0.66484 - 1.39709I$	$-4.37800 + 4.77865I$
$u = -0.547424 + 1.120870I$ $a = 0.95668 + 1.22719I$ $b = 0.043315 - 1.227190I$	$-4.26996 - 7.64338I$	$-11.12200 + 5.79053I$
$u = -0.547424 - 1.120870I$ $a = 0.95668 - 1.22719I$ $b = 0.043315 + 1.227190I$	$-4.26996 + 7.64338I$	$-11.12200 - 5.79053I$

III. $\boldsymbol{I_3^u = \langle -u^5 - u^3 + b - u - 1,\ a + u + 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^4 - 5u^3 - u^2 - 4u - 11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^6 - y^5 + 4y^4 - 2y^3 + 8y^2 + 1$
c_2, c_5, c_6 c_{12}	$y^6 + 3y^5 + 4y^4 + 2y^3 + 1$
c_3	$(y^3 - y^2 + 2y - 1)^2$
c_4, c_{10}	y^6
c_8, c_9, c_{11}	$(y-1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.498832 + 1.001300I$ $a = -1.49883 - 1.00130I$ $b = 1.41613 - 0.43668I$	$-1.91067 + 2.82812I$	$-4.93045 - 2.21599I$
$u = 0.498832 - 1.001300I$ $a = -1.49883 + 1.00130I$ $b = 1.41613 + 0.43668I$	$-1.91067 - 2.82812I$	$-4.93045 + 2.21599I$
$u = -0.284920 + 1.115140I$ $a = -0.715080 - 1.115140I$ $b = -0.162359 + 0.635452I$	-6.04826	$-14.8442 + 0.2733I$
$u = -0.284920 - 1.115140I$ $a = -0.715080 + 1.115140I$ $b = -0.162359 - 0.635452I$	-6.04826	$-14.8442 - 0.2733I$
$u = -0.713912 + 0.305839I$ $a = -0.286088 - 0.305839I$ $b = 0.246226 + 0.998963I$	$-1.91067 + 2.82812I$	$-7.72532 - 2.61835I$
$u = -0.713912 - 0.305839I$ $a = -0.286088 + 0.305839I$ $b = 0.246226 - 0.998963I$	$-1.91067 - 2.82812I$	$-7.72532 + 2.61835I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{86}+42u^{85}+\cdots-5u+1)$
c_2	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{86}-2u^{85}+\cdots+u+1)$
c_3	$(u^3-u^2+1)^2(u^4+3u^3+4u^2+3u+2)$ $\cdot(u^{86}+2u^{85}+\cdots-1288u+1480)$
c_4, c_{10}	$u^{10}(u^{86}-u^{85}+\cdots-1024u-1024)$
c_5, c_{12}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{86}+6u^{85}+\cdots+2399u+61)$
c_6	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{86}-2u^{85}+\cdots+u+1)$
c_7	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{86}-10u^{85}+\cdots-1635u+175)$
c_8, c_9	$((u-1)^{10})(u^{86}-11u^{85}+\cdots+10u-1)$
c_{11}	$((u+1)^{10})(u^{86}-11u^{85}+\cdots+10u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot\,(y^{86}+6y^{85}+\cdots-53y+1)$
c_2, c_6	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot\,(y^{86}+42y^{85}+\cdots-5y+1)$
c_3	$(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot\,(y^{86}-30y^{85}+\cdots-83985424y+2190400)$
c_4, c_{10}	$y^{10}(y^{86}-63y^{85}+\cdots+524288y+1048576)$
c_5, c_{12}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot\,(y^{86}+78y^{85}+\cdots-4956101y+3721)$
c_7	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot\,(y^{86}-6y^{85}+\cdots-286925y+30625)$
c_8, c_9, c_{11}	$((y-1)^{10})(y^{86}-89y^{85}+\cdots-20y+1)$