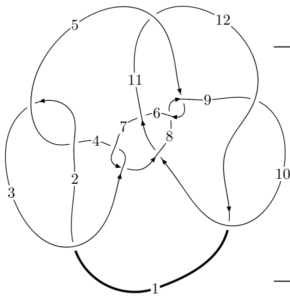
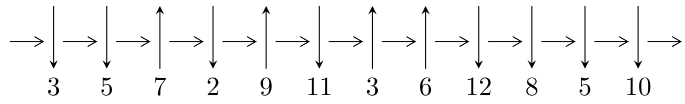
$12n_{0226}$ $(K12n_{0226})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.38993 \times 10^{213} u^{52} - 3.85126 \times 10^{213} u^{51} + \cdots + 8.47410 \times 10^{215} b + 8.97607 \times 10^{216}, \\ & 2.88140 \times 10^{215} u^{52} - 8.01190 \times 10^{215} u^{51} + \cdots + 4.57601 \times 10^{217} a + 1.91823 \times 10^{219}, \\ & u^{53} - 2u^{52} + \cdots + 22464u + 5184 \rangle \\ I_2^u = \langle & u^8 + u^6 + 2u^4 + u^2 + b + u,\ u^8 + u^7 + 3u^6 + u^5 + 4u^4 + u^3 + 4u^2 + a + 2, \\ & u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v = \langle & a,\ 18315v^5 + 20514v^4 + 76517v^3 + 68962v^2 + 11867b - 4895v + 9310, \\ & 9v^6 + 3v^5 + 38v^4 + 6v^3 + 7v^2 + 3v + 1 \rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 68 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. $\boldsymbol{I_1^u = \langle 1.39 \times 10^{213} u^{52} - 3.85 \times 10^{213} u^{51} + \cdots + 8.47 \times 10^{215} b + 8.98 \times 10^{216},\ 2.88 \times 10^{215} u^{52} - 8.01 \times 10^{215} u^{51} + \cdots + 4.58 \times 10^{217} a + 1.92 \times 10^{219},\ u^{53} - 2u^{52} + \cdots + 22464u + 5184 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.00629675u^{52} + 0.0175085u^{51} + \cdots - 128.153u - 41.9191 \\ -0.00164021u^{52} + 0.00454474u^{51} + \cdots - 31.1195u - 10.5924 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00570365u^{52} - 0.0158936u^{51} + \cdots + 113.481u + 37.6349 \\ 0.00300075u^{52} - 0.00832795u^{51} + \cdots + 62.3538u + 20.6068 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00870440u^{52} - 0.0242216u^{51} + \cdots + 175.834u + 58.2417 \\ 0.00300075u^{52} - 0.00832795u^{51} + \cdots + 62.3538u + 20.6068 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.000384770u^{52} - 0.000892176u^{51} + \cdots + 10.3952u + 5.00364 \\ 0.00146358u^{52} - 0.00397329u^{51} + \cdots + 32.4577u + 10.6141 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00264793u^{52} - 0.00764690u^{51} + \cdots + 49.3301u + 15.6401 \\ -0.00203270u^{52} + 0.00553763u^{51} + \cdots - 41.9729u - 14.2915 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00349732u^{52} + 0.00965215u^{51} + \cdots - 71.0018u - 24.3376 \\ -0.000464535u^{52} + 0.00120085u^{51} + \cdots - 9.87081u - 3.79816 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.000762957u^{52} - 0.00212328u^{51} + \cdots + 15.5695u + 6.49566 \\ 0.00230398u^{52} - 0.00638244u^{51} + \cdots + 45.5648u + 14.7106 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00418756u^{52} + 0.0117419u^{51} + \cdots - 81.5052u - 27.0323 \\ -0.000471548u^{52} + 0.00132482u^{51} + \cdots - 7.27553u - 2.56665 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.00778197u^{52} - 0.0219456u^{51} + \cdots + 153.438u + 50.5587 \\ 0.000923497u^{52} - 0.00264094u^{51} + \cdots + 18.6239u + 5.59256 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0103737u^{52} - 0.0284322u^{51} + \cdots + 214.510u + 70.9728$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{53} + 63u^{52} + \cdots + 371u + 1$
c_2, c_4	$u^{53} - 11u^{52} + \cdots + 27u - 1$
c_3, c_7	$u^{53} - 2u^{52} + \cdots + 2560u + 512$
c_5, c_8	$u^{53} + 3u^{52} + \cdots + 3u + 1$
c_6	$u^{53} + 2u^{52} + \cdots + 22464u - 5184$
c_9, c_{12}	$u^{53} - 8u^{52} + \cdots + 936u - 81$
c_{10}	$9(9u^{53} - 6u^{52} + \cdots + 279223u - 329)$
c_{11}	$9(9u^{53} - 30u^{52} + \cdots - 9820u - 5144)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} - 135y^{52} + \cdots + 162995y - 1$
c_2, c_4	$y^{53} - 63y^{52} + \cdots + 371y - 1$
c_3, c_7	$y^{53} + 54y^{52} + \cdots + 6815744y - 262144$
c_5, c_8	$y^{53} + 37y^{52} + \cdots + 11y - 1$
c_6	$y^{53} - 36y^{52} + \cdots - 140341248y - 26873856$
c_9, c_{12}	$y^{53} - 54y^{52} + \cdots + 624672y - 6561$
c_{10}	$81(81y^{53} - 4590y^{52} + \cdots + 7.81268 \times 10^{10}y - 108241)$
c_{11}	$81(81y^{53} - 3132y^{52} + \cdots + 2.63839 \times 10^{8}y - 2.64607 \times 10^{7})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.587478 + 0.786624I$ $a = 0.240520 - 1.341440I$ $b = -0.996338 - 0.133497I$	$-4.36101 - 1.13066I$	$-3.77707 + 1.04050I$
$u = -0.587478 - 0.786624I$ $a = 0.240520 + 1.341440I$ $b = -0.996338 + 0.133497I$	$-4.36101 + 1.13066I$	$-3.77707 - 1.04050I$
$u = 0.784719 + 0.727591I$ $a = -0.014954 + 0.267900I$ $b = -0.814475 - 0.023459I$	$-1.03321 - 2.55519I$	$0. + 3.47308I$
$u = 0.784719 - 0.727591I$ $a = -0.014954 - 0.267900I$ $b = -0.814475 + 0.023459I$	$-1.03321 + 2.55519I$	$0. - 3.47308I$
$u = -0.857688 + 0.043715I$ $a = 0.82268 - 2.49528I$ $b = 0.600154 - 0.231146I$	$-11.54620 + 0.81534I$	$-10.67384 + 3.02586I$
$u = -0.857688 - 0.043715I$ $a = 0.82268 + 2.49528I$ $b = 0.600154 + 0.231146I$	$-11.54620 - 0.81534I$	$-10.67384 - 3.02586I$
$u = 0.725133 + 0.331259I$ $a = 0.42484 + 1.56658I$ $b = -0.513240 - 0.036488I$	$-0.90481 - 1.57510I$	$-3.08858 + 5.02134I$
$u = 0.725133 - 0.331259I$ $a = 0.42484 - 1.56658I$ $b = -0.513240 + 0.036488I$	$-0.90481 + 1.57510I$	$-3.08858 - 5.02134I$
$u = 0.307246 + 0.727363I$ $a = -0.0797886 + 0.0873572I$ $b = 0.789629 + 0.027013I$	$0.78284 - 1.50580I$	$1.85337 + 3.47450I$
$u = 0.307246 - 0.727363I$ $a = -0.0797886 - 0.0873572I$ $b = 0.789629 - 0.027013I$	$0.78284 + 1.50580I$	$1.85337 - 3.47450I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.831004+0.912545I$ $a=-0.0242547+0.0656877I$ $b=-0.518016+0.075260I$	$-4.72794+6.87040I$	0
$u=-0.831004-0.912545I$ $a=-0.0242547-0.0656877I$ $b=-0.518016-0.075260I$	$-4.72794-6.87040I$	0
$u=-0.761253+0.017589I$ $a=-2.29759+1.93041I$ $b=-1.353470+0.374252I$	$-3.70920-0.68240I$	$-10.13112-2.63548I$
$u=-0.761253-0.017589I$ $a=-2.29759-1.93041I$ $b=-1.353470-0.374252I$	$-3.70920+0.68240I$	$-10.13112+2.63548I$
$u=-0.347262+0.578978I$ $a=\quad 0.129109-0.200519I$ $b=-1.133590+0.745300I$	$-1.55881-5.25423I$	$-4.65004-2.98399I$
$u=-0.347262-0.578978I$ $a=\quad 0.129109+0.200519I$ $b=-1.133590-0.745300I$	$-1.55881+5.25423I$	$-4.65004+2.98399I$
$u=\quad 1.324240+0.127996I$ $a=\quad 1.145120+0.199282I$ $b=\quad 2.72490+0.99639I$	$-5.64518+2.18249I$	0
$u=\quad 1.324240-0.127996I$ $a=\quad 1.145120-0.199282I$ $b=\quad 2.72490-0.99639I$	$-5.64518-2.18249I$	0
$u=-0.700095+1.162100I$ $a=-0.976198+0.126169I$ $b=\quad 1.122560-0.323129I$	$-12.33890-1.47775I$	0
$u=-0.700095-1.162100I$ $a=-0.976198-0.126169I$ $b=\quad 1.122560+0.323129I$	$-12.33890+1.47775I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.043959+0.630873I$ $a=\ \ 0.008106+0.322090I$ $b=\ \ 0.678672-0.502775I$	$1.01456-1.24993I$	$3.91266+3.38096I$
$u=-0.043959-0.630873I$ $a=\ \ 0.008106-0.322090I$ $b=\ \ 0.678672+0.502775I$	$1.01456+1.24993I$	$3.91266-3.38096I$
$u=-1.358620+0.308671I$ $a=\ \ 0.169926-1.179720I$ $b=-0.423412-0.390473I$	$-6.83584+3.76717I$	0
$u=-1.358620-0.308671I$ $a=\ \ 0.169926+1.179720I$ $b=-0.423412+0.390473I$	$-6.83584-3.76717I$	0
$u=-0.604410$ $a=-1.65322$ $b=-1.20764$	-2.44483	1.00720
$u=\ \ 1.45892$ $a=\ \ 0.101323$ $b=-1.70701$	-9.31076	0
$u=-0.269477+0.439684I$ $a=\ \ 4.18219-1.38429I$ $b=-0.672684-0.197132I$	$-3.14584-0.60875I$	$-6.43020-7.79756I$
$u=-0.269477-0.439684I$ $a=\ \ 4.18219+1.38429I$ $b=-0.672684+0.197132I$	$-3.14584+0.60875I$	$-6.43020+7.79756I$
$u=\ \ 0.460236$ $a=\ \ 1.51100$ $b=\ \ 0.0968051$	-1.26040	-8.84480
$u=\ \ 1.52986+0.22695I$ $a=-0.093190+1.107430I$ $b=-1.34206+0.70739I$	$-11.21080-2.39200I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52986 - 0.22695I$ $a = -0.093190 - 1.107430I$ $b = -1.34206 - 0.70739I$	$-11.21080 + 2.39200I$	0
$u = 1.52455 + 0.46520I$ $a = 0.339028 + 0.930463I$ $b = 0.342173 + 0.677015I$	$-18.7129 - 3.6964I$	0
$u = 1.52455 - 0.46520I$ $a = 0.339028 - 0.930463I$ $b = 0.342173 - 0.677015I$	$-18.7129 + 3.6964I$	0
$u = 1.38129 + 0.81789I$ $a = -0.478490 - 0.971616I$ $b = 1.264090 - 0.596385I$	$-8.77075 - 4.08365I$	0
$u = 1.38129 - 0.81789I$ $a = -0.478490 + 0.971616I$ $b = 1.264090 + 0.596385I$	$-8.77075 + 4.08365I$	0
$u = -0.044332 + 0.385912I$ $a = -0.50758 - 2.65542I$ $b = -0.469624 + 0.982343I$	$-2.07856 + 0.90512I$	$-5.97042 + 0.60054I$
$u = -0.044332 - 0.385912I$ $a = -0.50758 + 2.65542I$ $b = -0.469624 - 0.982343I$	$-2.07856 - 0.90512I$	$-5.97042 - 0.60054I$
$u = -1.60969 + 0.39785I$ $a = 0.271528 + 1.346120I$ $b = 2.46563 + 1.85991I$	$-4.33713 + 4.43867I$	0
$u = -1.60969 - 0.39785I$ $a = 0.271528 - 1.346120I$ $b = 2.46563 - 1.85991I$	$-4.33713 - 4.43867I$	0
$u = 0.39044 + 1.61625I$ $a = -1.33817 - 0.73379I$ $b = 3.75376 + 0.88972I$	$-7.18708 + 1.12498I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.39044 - 1.61625I$ $a = -1.33817 + 0.73379I$ $b = 3.75376 - 0.88972I$	$-7.18708 - 1.12498I$	0
$u = -1.43936 + 0.92831I$ $a = -0.465711 + 0.991202I$ $b = 1.205920 + 0.655448I$	$-14.6527 + 9.7412I$	0
$u = -1.43936 - 0.92831I$ $a = -0.465711 - 0.991202I$ $b = 1.205920 - 0.655448I$	$-14.6527 - 9.7412I$	0
$u = -1.65766 + 0.50774I$ $a = -0.0133733 - 0.1179740I$ $b = 1.62509 - 0.20497I$	$-13.7945 + 6.0358I$	0
$u = -1.65766 - 0.50774I$ $a = -0.0133733 + 0.1179740I$ $b = 1.62509 + 0.20497I$	$-13.7945 - 6.0358I$	0
$u = 1.58393 + 0.77592I$ $a = -0.256700 - 1.138260I$ $b = 2.08530 - 1.06037I$	$-11.4354 - 9.7069I$	0
$u = 1.58393 - 0.77592I$ $a = -0.256700 + 1.138260I$ $b = 2.08530 + 1.06037I$	$-11.4354 + 9.7069I$	0
$u = 1.61919 + 1.26886I$ $a = 0.552254 + 0.933688I$ $b = -2.43008 + 1.46142I$	$-19.2132 - 15.4269I$	0
$u = 1.61919 - 1.26886I$ $a = 0.552254 - 0.933688I$ $b = -2.43008 - 1.46142I$	$-19.2132 + 15.4269I$	0
$u = -2.31619 + 1.30414I$ $a = 0.253148 - 0.797202I$ $b = -3.48820 - 2.65877I$	$-12.9006 + 7.5876I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -2.31619 - 1.30414I$ $a = 0.253148 + 0.797202I$ $b = -3.48820 + 2.65877I$	$-12.9006 - 7.5876I$	0
$u = 1.99609 + 2.43775I$ $a = 0.166870 + 0.527301I$ $b = -5.59376 - 1.35007I$	$-17.5158 + 2.8823I$	0
$u = 1.99609 - 2.43775I$ $a = 0.166870 - 0.527301I$ $b = -5.59376 + 1.35007I$	$-17.5158 - 2.8823I$	0

II. $\boldsymbol{I^u_2 = \langle u^8 + u^6 + 2u^4 + u^2 + b + u,\ u^8 + u^7 + 3u^6 + u^5 + 4u^4 + u^3 + 4u^2 + a + 2,\ u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^8 + u^6 + u^4 - 1 \\ u^8 + u^7 + u^6 + 2u^5 + u^4 + 2u^3 + 2u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^8 - u^7 - 3u^6 - u^5 - 5u^4 - u^3 - 5u^2 - 3 \\ -u^8 - u^6 - 3u^4 - u^2 - u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 - u^2 - 1 \\ -u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^8 - u^7 - 3u^6 - u^5 - 4u^4 - u^3 - 4u^2 - 2 \\ -u^8 - u^6 - 2u^4 - u^2 - u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^8 - 8u^7 - 13u^6 - 9u^5 - 17u^4 - 16u^3 - 13u^2 - 4u - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_7	u^9
c_4	$(u+1)^9$
c_5	$u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1$
c_6	$u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1$
c_8	$u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1$
c_9	$u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1$
c_{10}	$u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1$
c_{11}	$u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1$
c_{12}	$u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_7	y^9
c_5, c_8	$y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1$
c_6, c_{10}	$y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1$
c_9, c_{12}	$y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1$
c_{11}	$y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.140343 + 0.966856I$ $a = 0.483566 + 0.305056I$ $b = -0.525305 - 0.147929I$	$0.13850 - 2.09337I$	$-4.94317 + 6.62869I$
$u = 0.140343 - 0.966856I$ $a = 0.483566 - 0.305056I$ $b = -0.525305 + 0.147929I$	$0.13850 + 2.09337I$	$-4.94317 - 6.62869I$
$u = 0.628449 + 0.875112I$ $a = -1.022450 + 0.246780I$ $b = 0.107759 - 1.216140I$	$-2.26187 - 2.45442I$	$-8.11682 + 3.00529I$
$u = 0.628449 - 0.875112I$ $a = -1.022450 - 0.246780I$ $b = 0.107759 + 1.216140I$	$-2.26187 + 2.45442I$	$-8.11682 - 3.00529I$
$u = -0.796005 + 0.733148I$ $a = 1.23246 + 1.62704I$ $b = 2.01751 - 1.28212I$	$-6.01628 - 1.33617I$	$-10.09079 - 3.07774I$
$u = -0.796005 - 0.733148I$ $a = 1.23246 - 1.62704I$ $b = 2.01751 + 1.28212I$	$-6.01628 + 1.33617I$	$-10.09079 + 3.07774I$
$u = -0.728966 + 0.986295I$ $a = -0.411691 + 0.129409I$ $b = 0.367799 + 0.534872I$	$-5.24306 + 7.08493I$	$-14.1334 - 8.8789I$
$u = -0.728966 - 0.986295I$ $a = -0.411691 - 0.129409I$ $b = 0.367799 - 0.534872I$	$-5.24306 - 7.08493I$	$-14.1334 + 8.8789I$
$u = 0.512358$ $a = -3.56378$ $b = -0.935531$	-2.84338	-25.4320

III. $\boldsymbol{I_1^v =}$
$\boldsymbol{\langle a,\ 18315v^5{+}20514v^4{+}\cdots{+}11867b{+}9310,\ 9v^6{+}3v^5{+}38v^4{+}6v^3{+}7v^2{+}3v{+}1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0 \\ -1.54336v^5 - 1.72866v^4 + \cdots + 0.412488v - 0.784529 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 1 \\ 3.02073v^5 + 0.380467v^4 + \cdots + 3.21968v - 0.339176 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.02073v^5 + 0.380467v^4 + \cdots + 3.21968v + 0.660824 \\ 3.02073v^5 + 0.380467v^4 + \cdots + 3.21968v - 0.339176 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.57437v^5 - 0.956350v^4 + \cdots - 2.47712v - 0.821859 \\ -6.59510v^5 - 1.33682v^4 + \cdots - 5.69681v - 1.48268 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2.39429v^5 - 0.443920v^4 + \cdots - 0.873599v - 0.325187 \\ -3.88228v^5 - 0.314991v^4 + \cdots - 3.93537v - 0.393613 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -3.02073v^5 - 0.380467v^4 + \cdots - 3.21968v - 0.660824 \\ -6.59510v^5 - 1.33682v^4 + \cdots - 5.69681v - 1.48268 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.02073v^5 - 0.380467v^4 + \cdots - 3.21968v - 0.660824 \\ -3.02073v^5 - 0.380467v^4 + \cdots - 3.21968v + 0.339176 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.54336v^5 - 1.72866v^4 + \cdots + 0.412488v - 0.784529 \\ -1.54336v^5 - 1.72866v^4 + \cdots + 0.412488v - 0.784529 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.626443v^5 - 0.0634533v^4 + \cdots + 2.34609v + 0.335637 \\ -0.861549v^5 + 0.0654757v^4 + \cdots - 0.715682v - 0.732788 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{416817}{11867}v^5 - \frac{36660}{11867}v^4 + \frac{1727641}{11867}v^3 - \frac{424337}{11867}v^2 + \frac{315169}{11867}v - \frac{45696}{11867}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1$
c_2, c_7	$u^6 + u^5 - u^4 - 2u^3 + u + 1$
c_3, c_4	$u^6 - u^5 - u^4 + 2u^3 - u + 1$
c_5	$u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1$
c_6	u^6
c_9	$(u-1)^6$
c_{10}	$9(9u^6 + 30u^5 + 41u^4 + 30u^3 + 15u^2 + 5u + 1)$
c_{11}	$9(9u^6 - 12u^5 + 2u^4 + u^3 + 4u^2 - 4u + 1)$
c_{12}	$(u+1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_8	$y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1$
c_2, c_3, c_4 c_7	$y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1$
c_6	y^6
c_9, c_{12}	$(y-1)^6$
c_{10}	$81(81y^6 - 162y^5 + 151y^4 + 48y^3 + 7y^2 + 5y + 1)$
c_{11}	$81(81y^6 - 108y^5 + 100y^4 - 63y^3 + 28y^2 - 8y + 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 0.178337 + 0.463585I$ $a = 0$ $b = 1.002190 - 0.295542I$	$0.245672 - 0.924305I$	$-7.47464 - 1.75692I$
$v = 0.178337 - 0.463585I$ $a = 0$ $b = 1.002190 + 0.295542I$	$0.245672 + 0.924305I$	$-7.47464 + 1.75692I$
$v = -0.246749 + 0.226622I$ $a = 0$ $b = -1.073950 + 0.558752I$	$-1.64493 - 5.69302I$	$-7.2342 + 14.2758I$
$v = -0.246749 - 0.226622I$ $a = 0$ $b = -1.073950 - 0.558752I$	$-1.64493 + 5.69302I$	$-7.2342 - 14.2758I$
$v = -0.09825 + 2.00069I$ $a = 0$ $b = -0.428243 + 0.664531I$	$-3.53554 + 0.92430I$	$-15.9578 - 1.1630I$
$v = -0.09825 - 2.00069I$ $a = 0$ $b = -0.428243 - 0.664531I$	$-3.53554 - 0.92430I$	$-15.9578 + 1.1630I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^9(u^6-3u^5+5u^4-4u^3+2u^2-u+1)$ $\cdot(u^{53}+63u^{52}+\cdots+371u+1)$
c_2	$((u-1)^9)(u^6+u^5+\cdots+u+1)(u^{53}-11u^{52}+\cdots+27u-1)$
c_3	$u^9(u^6-u^5+\cdots-u+1)(u^{53}-2u^{52}+\cdots+2560u+512)$
c_4	$((u+1)^9)(u^6-u^5+\cdots-u+1)(u^{53}-11u^{52}+\cdots+27u-1)$
c_5	$(u^6+3u^5+5u^4+4u^3+2u^2+u+1)$ $\cdot(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{53}+3u^{52}+\cdots+3u+1)$
c_6	$u^6(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot(u^{53}+2u^{52}+\cdots+22464u-5184)$
c_7	$u^9(u^6+u^5+\cdots+u+1)(u^{53}-2u^{52}+\cdots+2560u+512)$
c_8	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)$ $\cdot(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{53}+3u^{52}+\cdots+3u+1)$
c_9	$(u-1)^6(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)$ $\cdot(u^{53}-8u^{52}+\cdots+936u-81)$
c_{10}	$81(9u^6+30u^5+41u^4+30u^3+15u^2+5u+1)$ $\cdot(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(9u^{53}-6u^{52}+\cdots+279223u-329)$
c_{11}	$81(9u^6-12u^5+2u^4+u^3+4u^2-4u+1)$ $\cdot(u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1)$ $\cdot(9u^{53}-30u^{52}+\cdots-9820u-5144)$
c_{12}	$(u+1)^6(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{53}-8u^{52}+\cdots+936u-81)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^9(y^6+y^5+5y^4+6y^2+3y+1)$ $\cdot(y^{53}-135y^{52}+\cdots+162995y-1)$
c_2, c_4	$(y-1)^9(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{53}-63y^{52}+\cdots+371y-1)$
c_3, c_7	$y^9(y^6-3y^5+5y^4-4y^3+2y^2-y+1)$ $\cdot(y^{53}+54y^{52}+\cdots+6815744y-262144)$
c_5, c_8	$(y^6+y^5+5y^4+6y^2+3y+1)$ $\cdot(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{53}+37y^{52}+\cdots+11y-1)$
c_6	$y^6(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{53}-36y^{52}+\cdots-140341248y-26873856)$
c_9, c_{12}	$(y-1)^6(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{53}-54y^{52}+\cdots+624672y-6561)$
c_{10}	$6561(81y^6-162y^5+151y^4+48y^3+7y^2+5y+1)$ $\cdot(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(81y^{53}-4590y^{52}+\cdots+78126767425y-108241)$
c_{11}	$6561(81y^6-108y^5+100y^4-63y^3+28y^2-8y+1)$ $\cdot(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(81y^{53}-3132y^{52}+\cdots+263838736y-26460736)$