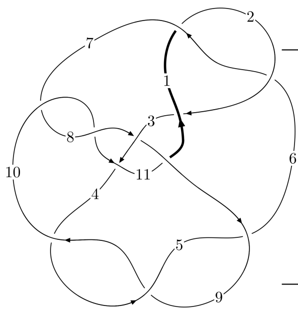
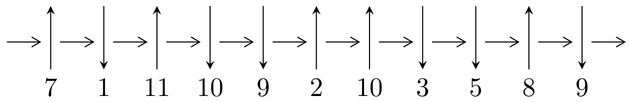
$11n_{115}$ ($K11n_{115}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -674u^{17} + 4280u^{16} + \cdots + 3857b + 7561,\ 5911u^{17} - 7561u^{16} + \cdots + 3857a - 13760,$$
$$u^{18} + 2u^{16} + \cdots - u + 1\rangle$$
$$I_2^u = \langle -3.99406 \times 10^{27}u^{29} + 7.06888 \times 10^{27}u^{28} + \cdots + 4.03786 \times 10^{28}b + 1.80487 \times 10^{29},$$
$$4.44913 \times 10^{33}u^{29} - 9.50806 \times 10^{33}u^{28} + \cdots + 2.74816 \times 10^{34}a - 2.41871 \times 10^{35},\ u^{30} - u^{29} + \cdots + 4u + 19$$
$$I_3^u = \langle u^8 + 4u^6 + u^5 + 4u^4 + 2u^3 + 2u^2 + b + 2,\ -2u^8 - 9u^6 - 2u^5 - 12u^4 - 5u^3 - 8u^2 + a - 2u - 5,$$
$$u^{10} + 5u^8 + u^7 + 8u^6 + 3u^5 + 6u^4 + 2u^3 + 4u^2 + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 58 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. $\boldsymbol{I_1^u = \langle -674u^{17} + 4280u^{16} + \cdots + 3857b + 7561,\ 5911u^{17} - 7561u^{16} + \cdots + 3857a - 13760,\ u^{18} + 2u^{16} + \cdots - u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.53254u^{17} + 1.96033u^{16} + \cdots - 7.35364u + 3.56754 \\ 0.174747u^{17} - 1.10967u^{16} + \cdots + 3.49287u - 1.96033 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.35779u^{17} + 0.850661u^{16} + \cdots - 3.86077u + 1.60721 \\ 0.174747u^{17} - 1.10967u^{16} + \cdots + 3.49287u - 1.96033 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.607208u^{17} - 1.35779u^{16} + \cdots + 4.77107u - 3.25356 \\ 0.850661u^{17} + 0.363754u^{16} + \cdots + 0.249417u + 1.35779 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -2.56754u^{17} - 1.53254u^{16} + \cdots + 2.73606u - 4.78610 \\ 1.96033u^{17} + 0.174747u^{16} + \cdots + 2.03500u + 1.53254 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -2.56754u^{17} - 1.53254u^{16} + \cdots + 1.73606u - 4.78610 \\ 1.96033u^{17} + 0.174747u^{16} + \cdots + 2.03500u + 1.53254 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.16878u^{17} + 1.31216u^{16} + \cdots - 5.14519u + 2.71688 \\ -0.0674099u^{17} - 1.24553u^{16} + \cdots + 3.76536u - 2.42183 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.241379u^{17} - 1.58621u^{16} + \cdots + 6.55172u - 3.72414 \\ -0.710656u^{17} + 0.607726u^{16} + \cdots - 2.60824u + 2.05678 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2.19212u^{17} + 0.650246u^{16} + \cdots - 5.41872u + 1.14778 \\ 0.834327u^{17} + 0.200415u^{16} + \cdots + 1.55795u + 0.459424 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -2.19212u^{17} + 0.650246u^{16} + \cdots - 5.41872u + 1.14778 \\ 0.834327u^{17} + 0.200415u^{16} + \cdots + 1.55795u + 0.459424 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{54335}{3857}u^{17} + \frac{9431}{3857}u^{16} + \cdots + \frac{110875}{3857}u + \frac{36718}{3857}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{18} + 6u^{17} + \cdots + 36u + 8$
c_2	$u^{18} + 8u^{17} + \cdots + 176u + 64$
c_3	$u^{18} + 2u^{17} + \cdots + u + 1$
c_4, c_5, c_8 c_9	$u^{18} + 2u^{16} + \cdots + u + 1$
c_7, c_{10}	$u^{18} + 9u^{17} + \cdots + 144u + 32$
c_{11}	$u^{18} - 2u^{17} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{18} + 8y^{17} + \cdots + 176y + 64$
c_2	$y^{18} + 4y^{17} + \cdots + 15104y + 4096$
c_3	$y^{18} + 16y^{17} + \cdots + 45y + 1$
c_4, c_5, c_8 c_9	$y^{18} + 4y^{17} + \cdots + 11y + 1$
c_7, c_{10}	$y^{18} - 9y^{17} + \cdots + 3328y + 1024$
c_{11}	$y^{18} - 18y^{17} + \cdots + 23y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.727352 + 0.735291I$ $a = 0.005136 - 0.376666I$ $b = 0.391222 + 1.079500I$	$-1.41496 - 2.43414I$	$-0.56962 + 3.23695I$
$u = 0.727352 - 0.735291I$ $a = 0.005136 + 0.376666I$ $b = 0.391222 - 1.079500I$	$-1.41496 + 2.43414I$	$-0.56962 - 3.23695I$
$u = -1.000950 + 0.529895I$ $a = -0.163201 - 0.016901I$ $b = 0.585493 - 0.899860I$	$-6.19243 - 0.93127I$	$-5.63625 + 0.73799I$
$u = -1.000950 - 0.529895I$ $a = -0.163201 + 0.016901I$ $b = 0.585493 + 0.899860I$	$-6.19243 + 0.93127I$	$-5.63625 - 0.73799I$
$u = 0.889387 + 0.824360I$ $a = -1.39177 - 0.79525I$ $b = 1.122460 - 0.663095I$	$-4.47725 - 4.89257I$	$-2.95225 + 5.04135I$
$u = 0.889387 - 0.824360I$ $a = -1.39177 + 0.79525I$ $b = 1.122460 + 0.663095I$	$-4.47725 + 4.89257I$	$-2.95225 - 5.04135I$
$u = -0.815454 + 0.912371I$ $a = -0.255737 + 0.447363I$ $b = 0.541043 - 1.182370I$	$-3.92260 + 7.75219I$	$-2.08036 - 6.66160I$
$u = -0.815454 - 0.912371I$ $a = -0.255737 - 0.447363I$ $b = 0.541043 + 1.182370I$	$-3.92260 - 7.75219I$	$-2.08036 + 6.66160I$
$u = 0.022331 + 0.744756I$ $a = 2.05987 - 0.16817I$ $b = -1.69007 + 0.19497I$	$5.20575 - 2.93660I$	$10.23255 + 0.78681I$
$u = 0.022331 - 0.744756I$ $a = 2.05987 + 0.16817I$ $b = -1.69007 - 0.19497I$	$5.20575 + 2.93660I$	$10.23255 - 0.78681I$

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.170147+0.689243I$ $a=-3.56038+0.93433I$ $b=1.361340+0.183714I$	$4.99266+3.58040I$	$11.7317-10.3370I$
$u=-0.170147-0.689243I$ $a=-3.56038-0.93433I$ $b=1.361340-0.183714I$	$4.99266-3.58040I$	$11.7317+10.3370I$
$u=-0.759355+1.116940I$ $a=-1.62765+0.48098I$ $b=1.23701+0.74198I$	$1.13316+8.99334I$	$2.75713-6.03184I$
$u=-0.759355-1.116940I$ $a=-1.62765-0.48098I$ $b=1.23701-0.74198I$	$1.13316-8.99334I$	$2.75713+6.03184I$
$u=0.248460+0.469643I$ $a=0.948209-0.220971I$ $b=-0.257868+0.489761I$	$-0.097050-1.164640I$	$-1.13861+6.02305I$
$u=0.248460-0.469643I$ $a=0.948209+0.220971I$ $b=-0.257868-0.489761I$	$-0.097050+1.164640I$	$-1.13861-6.02305I$
$u=0.85837+1.24910I$ $a=-1.51448-0.36642I$ $b=1.20938-0.80152I$	$-1.8070-14.7634I$	$0.15571+8.71478I$
$u=0.85837-1.24910I$ $a=-1.51448+0.36642I$ $b=1.20938+0.80152I$	$-1.8070+14.7634I$	$0.15571-8.71478I$

II.
$\boldsymbol{I_2^u = \langle -3.99\times10^{27}u^{29}+7.07\times10^{27}u^{28}+\cdots+4.04\times10^{28}b+1.80\times10^{29},\ 4.45\times10^{33}u^{29}-9.51\times10^{33}u^{28}+\cdots+2.75\times10^{34}a-2.42\times10^{35},\ u^{30}-u^{29}+\cdots+4u+19\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.161895u^{29}+0.345979u^{28}+\cdots-16.7463u+8.80118\\0.0989152u^{29}-0.175065u^{28}+\cdots+3.29797u-4.46987\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.0629794u^{29}+0.170914u^{28}+\cdots-13.4483u+4.33131\\0.0989152u^{29}-0.175065u^{28}+\cdots+3.29797u-4.46987\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.316971u^{29}+0.590127u^{28}+\cdots-27.3471u+10.7433\\0.176327u^{29}-0.254041u^{28}+\cdots+8.35983u-4.03217\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.00623793u^{29}+0.145908u^{28}+\cdots-4.22733u+10.5731\\-0.0140293u^{29}-0.0647144u^{28}+\cdots-3.03553u-3.76001\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0130929u^{29}+0.205656u^{28}+\cdots-1.91890u+11.4423\\-0.00894659u^{29}-0.0916273u^{28}+\cdots-2.82991u-4.52791\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.215063u^{29}+0.358791u^{28}+\cdots-15.9814u+6.75042\\0.193888u^{29}-0.280534u^{28}+\cdots+6.04439u-5.14994\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.444660u^{29}+0.619051u^{28}+\cdots-23.4202u+6.77557\\0.135606u^{29}-0.158420u^{28}+\cdots+2.39399u-0.503494\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0.158988u^{29}-0.0254505u^{28}+\cdots+7.44679u+5.85736\\0.0532312u^{29}-0.0104417u^{28}+\cdots+7.25020u+3.35135\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0.158988u^{29}-0.0254505u^{28}+\cdots+7.44679u+5.85736\\0.0532312u^{29}-0.0104417u^{28}+\cdots+7.25020u+3.35135\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.436420u^{29}-0.254006u^{28}+\cdots+22.7490u+12.5484$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)^6$
c_2	$(u^5 + 3u^4 + 4u^3 + u^2 - u - 1)^6$
c_3	$u^{30} + 3u^{29} + \cdots - 138u + 77$
c_4, c_5, c_8 c_9	$u^{30} + u^{29} + \cdots - 4u + 19$
c_7, c_{10}	$(u^3 - u^2 + 1)^{10}$
c_{11}	$u^{30} - 5u^{29} + \cdots - 182u + 347$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^5+3y^4+4y^3+y^2-y-1)^6$
c_2	$(y^5-y^4+8y^3-3y^2+3y-1)^6$
c_3	$y^{30}-5y^{29}+\cdots+19456y+5929$
c_4, c_5, c_8 c_9	$y^{30}+15y^{29}+\cdots+6520y+361$
c_7, c_{10}	$(y^3-y^2+2y-1)^{10}$
c_{11}	$y^{30}+3y^{29}+\cdots+526240y+120409$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.097323 + 0.949937I$ $a = 1.212260 + 0.728023I$ $b = -0.877439 + 0.744862I$	$1.58157 - 4.35870I$	$1.97513 + 7.41010I$
$u = 0.097323 - 0.949937I$ $a = 1.212260 - 0.728023I$ $b = -0.877439 - 0.744862I$	$1.58157 + 4.35870I$	$1.97513 - 7.41010I$
$u = -0.894293 + 0.564111I$ $a = 0.362652 - 0.392414I$ $b = -0.877439 + 0.744862I$	$-0.49041 - 2.82812I$	$1.00910 + 2.97945I$
$u = -0.894293 - 0.564111I$ $a = 0.362652 + 0.392414I$ $b = -0.877439 - 0.744862I$	$-0.49041 + 2.82812I$	$1.00910 - 2.97945I$
$u = -0.346958 + 0.849386I$ $a = -0.65987 + 1.62762I$ $b = 0.754878$	3.64718	$7.53837 + 0.I$
$u = -0.346958 - 0.849386I$ $a = -0.65987 - 1.62762I$ $b = 0.754878$	3.64718	$7.53837 + 0.I$
$u = -0.882791 + 0.663108I$ $a = 0.444698 - 0.115781I$ $b = -0.877439 - 0.744862I$	$1.58157 + 4.35870I$	$1.97513 - 7.41010I$
$u = -0.882791 - 0.663108I$ $a = 0.444698 + 0.115781I$ $b = -0.877439 + 0.744862I$	$1.58157 - 4.35870I$	$1.97513 + 7.41010I$
$u = 0.904883 + 0.733963I$ $a = 0.085071 - 0.822649I$ $b = 0.754878$	$0.17569 - 4.40083I$	$4.27520 + 3.49859I$
$u = 0.904883 - 0.733963I$ $a = 0.085071 + 0.822649I$ $b = 0.754878$	$0.17569 + 4.40083I$	$4.27520 - 3.49859I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.585019 + 1.018790I$ $a = 0.740198 + 0.101986I$ $b = -0.877439 + 0.744862I$	$1.58157 - 1.29754I$	$1.97513 - 1.45120I$
$u = 0.585019 - 1.018790I$ $a = 0.740198 - 0.101986I$ $b = -0.877439 - 0.744862I$	$1.58157 + 1.29754I$	$1.97513 + 1.45120I$
$u = 0.632383 + 1.027640I$ $a = 1.49597 + 0.29038I$ $b = -0.877439 + 0.744862I$	$-0.49041 - 2.82812I$	$1.00910 + 2.97945I$
$u = 0.632383 - 1.027640I$ $a = 1.49597 - 0.29038I$ $b = -0.877439 - 0.744862I$	$-0.49041 + 2.82812I$	$1.00910 - 2.97945I$
$u = -0.842320 + 0.905421I$ $a = 1.63420 - 0.29238I$ $b = -0.877439 - 0.744862I$	$-3.96189 - 1.57271I$	$-2.25407 + 0.51914I$
$u = -0.842320 - 0.905421I$ $a = 1.63420 + 0.29238I$ $b = -0.877439 + 0.744862I$	$-3.96189 + 1.57271I$	$-2.25407 - 0.51914I$
$u = 0.860992 + 0.996268I$ $a = 0.509484 + 0.372562I$ $b = -0.877439 - 0.744862I$	$-3.96189 - 1.57271I$	$-2.25407 + 0.51914I$
$u = 0.860992 - 0.996268I$ $a = 0.509484 - 0.372562I$ $b = -0.877439 + 0.744862I$	$-3.96189 + 1.57271I$	$-2.25407 - 0.51914I$
$u = -0.096403 + 0.609074I$ $a = -2.26622 - 2.93679I$ $b = 0.754878$	$0.17569 + 4.40083I$	$4.27520 - 3.49859I$
$u = -0.096403 - 0.609074I$ $a = -2.26622 + 2.93679I$ $b = 0.754878$	$0.17569 - 4.40083I$	$4.27520 + 3.49859I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.70579 + 1.22794I$ $a = 1.52684 - 0.39422I$ $b = -0.877439 - 0.744862I$	$-3.96189 + 7.22895I$	$-2.25407 - 6.47803I$
$u = -0.70579 - 1.22794I$ $a = 1.52684 + 0.39422I$ $b = -0.877439 + 0.744862I$	$-3.96189 - 7.22895I$	$-2.25407 + 6.47803I$
$u = 1.29743 + 0.57947I$ $a = 0.408301 + 0.277952I$ $b = -0.877439 - 0.744862I$	$-3.96189 + 7.22895I$	$-2.25407 - 6.47803I$
$u = 1.29743 - 0.57947I$ $a = 0.408301 - 0.277952I$ $b = -0.877439 + 0.744862I$	$-3.96189 - 7.22895I$	$-2.25407 + 6.47803I$
$u = 0.02684 + 1.44366I$ $a = -1.83443 + 0.27491I$ $b = 0.754878$	$5.71916 - 1.53058I$	$8.50440 + 4.43065I$
$u = 0.02684 - 1.44366I$ $a = -1.83443 - 0.27491I$ $b = 0.754878$	$5.71916 + 1.53058I$	$8.50440 - 4.43065I$
$u = 0.067135 + 0.495411I$ $a = 1.17711 - 1.53101I$ $b = -0.877439 - 0.744862I$	$1.58157 + 1.29754I$	$1.97513 + 1.45120I$
$u = 0.067135 - 0.495411I$ $a = 1.17711 + 1.53101I$ $b = -0.877439 + 0.744862I$	$1.58157 - 1.29754I$	$1.97513 - 1.45120I$
$u = -0.20344 + 1.75702I$ $a = -0.888896 + 0.183201I$ $b = 0.754878$	$5.71916 + 1.53058I$	$8.50440 - 4.43065I$
$u = -0.20344 - 1.75702I$ $a = -0.888896 - 0.183201I$ $b = 0.754878$	$5.71916 - 1.53058I$	$8.50440 + 4.43065I$

III. $\boldsymbol{I_3^u = \langle u^8 + 4u^6 + u^5 + 4u^4 + 2u^3 + 2u^2 + b + 2,\ -2u^8 - 9u^6 + \cdots + a - 5,\ u^{10} + 5u^8 + \cdots + 4u^2 + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^8 + 9u^6 + 2u^5 + 12u^4 + 5u^3 + 8u^2 + 2u + 5 \\ -u^8 - 4u^6 - u^5 - 4u^4 - 2u^3 - 2u^2 - 2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^8 + 5u^6 + u^5 + 8u^4 + 3u^3 + 6u^2 + 2u + 3 \\ -u^8 - 4u^6 - u^5 - 4u^4 - 2u^3 - 2u^2 - 2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2u^9 + 9u^7 + 2u^6 + 11u^5 + 5u^4 + 4u^3 + u^2 + 3u - 2 \\ -u^9 - 5u^7 - u^6 - 8u^5 - 3u^4 - 6u^3 - 2u^2 - 3u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 4u^9 + 18u^7 + 4u^6 + 23u^5 + 10u^4 + 12u^3 + 3u^2 + 8u - 2 \\ -2u^9 - 9u^7 - 2u^6 - 12u^5 - 5u^4 - 8u^3 - 2u^2 - 5u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 4u^9 + 18u^7 + 4u^6 + 23u^5 + 10u^4 + 12u^3 + 3u^2 + 9u - 2 \\ -2u^9 - 9u^7 - 2u^6 - 12u^5 - 5u^4 - 7u^3 - 2u^2 - 5u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2u^8 + 9u^6 + 2u^5 + 12u^4 + 5u^3 + 7u^2 + 2u + 4 \\ -2u^8 - 8u^6 - 2u^5 - 9u^4 - 4u^3 - 5u^2 - 3 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 3u^9 + u^8 + 14u^7 + 7u^6 + 20u^5 + 12u^4 + 13u^3 + 4u^2 + 9u - 1 \\ -2u^9 - 2u^8 - 10u^7 - 10u^6 - 17u^5 - 15u^4 - 13u^3 - 8u^2 - 6u - 2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^9 - 2u^8 + 4u^7 - 9u^6 + 2u^5 - 13u^4 - 4u^3 - 9u^2 - u - 6 \\ -u^9 + u^8 - 4u^7 + 4u^6 - 3u^5 + 5u^4 + u^3 + 3u^2 - u + 3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^9 - 2u^8 + 4u^7 - 9u^6 + 2u^5 - 13u^4 - 4u^3 - 9u^2 - u - 6 \\ -u^9 + u^8 - 4u^7 + 4u^6 - 3u^5 + 5u^4 + u^3 + 3u^2 - u + 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{10}+5y^9+\cdots+7y+1$
c_2	$y^{10}+5y^9+11y^8+28y^7+69y^6+87y^5+50y^4+32y^3+36y^2-y+1$
c_3	$y^{10}-2y^9-5y^8+5y^7+17y^6+3y^5-16y^4-6y^3+9y^2+6y+1$
c_4, c_5, c_8 c_9	$y^{10}+10y^9+\cdots+8y+1$
c_7, c_{10}	$y^{10}-8y^9+\cdots-8y+1$
c_{11}	$y^{10}+4y^9+4y^8+4y^6+10y^5+8y^4-13y^3+16y^2-4y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.417680 + 0.777889I$ $a = 0.471406 + 0.198677I$ $b = -0.762772 + 0.870583I$	$1.59890 - 2.38428I$	$1.97609 + 6.43885I$
$u = 0.417680 - 0.777889I$ $a = 0.471406 - 0.198677I$ $b = -0.762772 - 0.870583I$	$1.59890 + 2.38428I$	$1.97609 - 6.43885I$
$u = -0.666811 + 0.558930I$ $a = -0.614575 - 0.894984I$ $b = -0.616156 - 0.405644I$	$-0.77437 + 5.03997I$	$-3.44044 - 8.11191I$
$u = -0.666811 - 0.558930I$ $a = -0.614575 + 0.894984I$ $b = -0.616156 + 0.405644I$	$-0.77437 - 5.03997I$	$-3.44044 + 8.11191I$
$u = 0.041017 + 1.338410I$ $a = -1.68567 - 0.13858I$ $b = 1.242340 + 0.172736I$	$7.62836 + 2.65528I$	$7.48214 - 3.22986I$
$u = 0.041017 - 1.338410I$ $a = -1.68567 + 0.13858I$ $b = 1.242340 - 0.172736I$	$7.62836 - 2.65528I$	$7.48214 + 3.22986I$
$u = 0.102677 + 0.595206I$ $a = 3.05538 + 0.64412I$ $b = -1.47267 + 0.27428I$	$4.57592 - 3.24415I$	$-2.14013 + 2.60549I$
$u = 0.102677 - 0.595206I$ $a = 3.05538 - 0.64412I$ $b = -1.47267 - 0.27428I$	$4.57592 + 3.24415I$	$-2.14013 - 2.60549I$
$u = 0.10544 + 1.60602I$ $a = -1.226540 - 0.081108I$ $b = 0.609265 + 0.131578I$	$5.06547 - 1.23703I$	$-4.37766 - 1.21888I$
$u = 0.10544 - 1.60602I$ $a = -1.226540 + 0.081108I$ $b = 0.609265 - 0.131578I$	$5.06547 + 1.23703I$	$-4.37766 + 1.21888I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)^6$ $\cdot (u^{10} + u^9 + 3u^8 + 2u^7 + 5u^6 + 3u^5 + 6u^4 + 2u^3 + 4u^2 + u + 1)$ $\cdot (u^{18} + 6u^{17} + \cdots + 36u + 8)$
c_2	$((u^5 + 3u^4 + 4u^3 + u^2 - u - 1)^6)(u^{10} + 5u^9 + \cdots + 7u + 1)$ $\cdot (u^{18} + 8u^{17} + \cdots + 176u + 64)$
c_3	$(u^{10} - u^8 + 3u^7 - 3u^6 - u^5 + 4u^4 - 6u^3 + 5u^2 - 2u + 1)$ $\cdot (u^{18} + 2u^{17} + \cdots + u + 1)(u^{30} + 3u^{29} + \cdots - 138u + 77)$
c_4, c_5, c_8	$(u^{10} + 5u^8 + u^7 + 8u^6 + 3u^5 + 6u^4 + 2u^3 + 4u^2 + 1)$ $\cdot (u^{18} + 2u^{16} + \cdots + u + 1)(u^{30} + u^{29} + \cdots - 4u + 19)$
c_6	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)^6$ $\cdot (u^{10} - u^9 + 3u^8 - 2u^7 + 5u^6 - 3u^5 + 6u^4 - 2u^3 + 4u^2 - u + 1)$ $\cdot (u^{18} + 6u^{17} + \cdots + 36u + 8)$
c_7	$((u^3 - u^2 + 1)^{10})(u^{10} + 2u^9 + \cdots - 4u^2 + 1)$ $\cdot (u^{18} + 9u^{17} + \cdots + 144u + 32)$
c_9	$(u^{10} + 5u^8 - u^7 + 8u^6 - 3u^5 + 6u^4 - 2u^3 + 4u^2 + 1)$ $\cdot (u^{18} + 2u^{16} + \cdots + u + 1)(u^{30} + u^{29} + \cdots - 4u + 19)$
c_{10}	$((u^3 - u^2 + 1)^{10})(u^{10} - 2u^9 + \cdots - 4u^2 + 1)$ $\cdot (u^{18} + 9u^{17} + \cdots + 144u + 32)$
c_{11}	$(u^{10} - 2u^9 + 4u^8 - 6u^7 + 6u^6 - 6u^5 + 6u^4 - u^3 - 2u^2 + 1)$ $\cdot (u^{18} - 2u^{17} + \cdots + 3u + 1)(u^{30} - 5u^{29} + \cdots - 182u + 347)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$((y^5+3y^4+4y^3+y^2-y-1)^6)(y^{10}+5y^9+\cdots+7y+1)$ $\cdot (y^{18}+8y^{17}+\cdots+176y+64)$
c_2	$(y^5-y^4+8y^3-3y^2+3y-1)^6$ $\cdot (y^{10}+5y^9+11y^8+28y^7+69y^6+87y^5+50y^4+32y^3+36y^2-y+1)$ $\cdot (y^{18}+4y^{17}+\cdots+15104y+4096)$
c_3	$(y^{10}-2y^9-5y^8+5y^7+17y^6+3y^5-16y^4-6y^3+9y^2+6y+1)$ $\cdot (y^{18}+16y^{17}+\cdots+45y+1)(y^{30}-5y^{29}+\cdots+19456y+5929)$
c_4, c_5, c_8 c_9	$(y^{10}+10y^9+\cdots+8y+1)(y^{18}+4y^{17}+\cdots+11y+1)$ $\cdot (y^{30}+15y^{29}+\cdots+6520y+361)$
c_7, c_{10}	$((y^3-y^2+2y-1)^{10})(y^{10}-8y^9+\cdots-8y+1)$ $\cdot (y^{18}-9y^{17}+\cdots+3328y+1024)$
c_{11}	$(y^{10}+4y^9+4y^8+4y^6+10y^5+8y^4-13y^3+16y^2-4y+1)$ $\cdot (y^{18}-18y^{17}+\cdots+23y+1)(y^{30}+3y^{29}+\cdots+526240y+120409)$