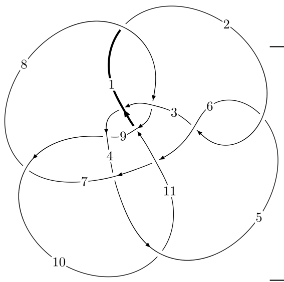
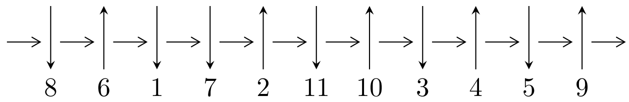
$11a_{288}$ ($K11a_{288}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 8.06723 \times 10^{36} u^{30} - 2.15815 \times 10^{37} u^{29} + \cdots + 3.48049 \times 10^{38} b + 2.48334 \times 10^{38},$$
$$2.80307 \times 10^{38} u^{30} - 9.56905 \times 10^{38} u^{29} + \cdots + 4.87269 \times 10^{39} a + 9.46071 \times 10^{39},\ u^{31} - 4u^{30} + \cdots + 50u -$$
$$I_2^u = \langle -2.07446 \times 10^{51} a u^{49} - 3.96254 \times 10^{51} u^{49} + \cdots + 1.37652 \times 10^{52} a + 2.97634 \times 10^{52},$$
$$1.89907 \times 10^{50} a u^{49} + 3.15834 \times 10^{50} u^{49} + \cdots - 1.33112 \times 10^{51} a - 2.21453 \times 10^{51},\ u^{50} + u^{49} + \cdots + 53u^2 -$$
$$I_3^u = \langle -120u^{11} a - 53u^{11} + \cdots + 159a - 21,\ 2244u^{11} a - 88u^{11} + \cdots - 4869a + 704,$$
$$u^{12} - 2u^{10} - u^8 + 8u^6 - 2u^5 - 10u^4 + 5u^3 + 6u^2 - u - 1\rangle$$
$$I_4^u = \langle -u^3 + u^2 + b - 1,\ -2u^4 + 2u^3 + u^2 + a - 2u - 2,\ u^5 - u^4 - u^3 + 2u^2 + u - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 160 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. $\boldsymbol{I^u_1} =$
$\langle \mathbf{8.07 \times 10^{36} u^{30} - 2.16 \times 10^{37} u^{29} + \cdots + 3.48 \times 10^{38} b + 2.48 \times 10^{38},\ 2.80 \times 10^{38} u^{30} - 9.57 \times 10^{38} u^{29} + \cdots + 4.87 \times 10^{39} a + 9.46 \times 10^{39},\ u^{31} - 4u^{30} + \cdots + 50u - 28} \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.0575261u^{30} + 0.196381u^{29} + \cdots - 0.668017u - 1.94158 \\ -0.0231784u^{30} + 0.0620070u^{29} + \cdots - 1.21996u - 0.713504 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.176167u^{30} - 0.581968u^{29} + \cdots - 3.39968u + 7.23962 \\ 0.0343023u^{30} - 0.100932u^{29} + \cdots + 0.798398u + 0.793988 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.208417u^{30} + 0.691487u^{29} + \cdots + 2.50241u - 7.53909 \\ -0.0519901u^{30} + 0.176388u^{29} + \cdots + 1.60836u - 1.85459 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.0807046u^{30} + 0.258388u^{29} + \cdots - 1.88798u - 2.65508 \\ -0.0231784u^{30} + 0.0620070u^{29} + \cdots - 1.21996u - 0.713504 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.0592055u^{30} - 0.204794u^{29} + \cdots - 3.84139u + 4.10481 \\ 0.00850606u^{30} - 0.0427335u^{29} + \cdots - 0.991100u + 0.713957 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.151056u^{30} - 0.489997u^{29} + \cdots - 0.795159u + 7.14890 \\ 0.0373762u^{30} - 0.128110u^{29} + \cdots - 0.0869666u + 1.73434 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0899122u^{30} - 0.296684u^{29} + \cdots - 4.28680u + 4.75380 \\ 0.0118652u^{30} - 0.0465465u^{29} + \cdots - 0.749425u + 0.496701 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0899122u^{30} - 0.296684u^{29} + \cdots - 4.28680u + 4.75380 \\ 0.0118652u^{30} - 0.0465465u^{29} + \cdots - 0.749425u + 0.496701 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.171373u^{30} + 0.572368u^{29} + \cdots - 0.551385u - 4.18306$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{31} - 7u^{30} + \cdots + 96u - 12$
c_2, c_5	$u^{31} - 4u^{30} + \cdots + 50u - 28$
c_3, c_4	$u^{31} - 2u^{30} + \cdots - 9u + 3$
c_7, c_{11}	$u^{31} - 4u^{30} + \cdots - 3u - 1$
c_8, c_{10}	$3(3u^{31} - 6u^{30} + \cdots + 5u - 1)$
c_9	$3(3u^{31} + 9u^{30} + \cdots + 832u + 128)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{31} + 5y^{30} + \cdots - 1776y - 144$
c_2, c_5	$y^{31} - 12y^{30} + \cdots - 7860y - 784$
c_3, c_4	$y^{31} - 6y^{30} + \cdots + 51y - 9$
c_7, c_{11}	$y^{31} + 2y^{30} + \cdots + 3y - 1$
c_8, c_{10}	$9(9y^{31} + 120y^{30} + \cdots + 9y - 1)$
c_9	$9(9y^{31} + 57y^{30} + \cdots + 331776y - 16384)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.902043 + 0.474320I$ $a = -1.36116 + 0.92502I$ $b = -0.249318 - 0.764075I$	$3.74146 - 4.83276I$	$8.35445 + 8.23935I$
$u = -0.902043 - 0.474320I$ $a = -1.36116 - 0.92502I$ $b = -0.249318 + 0.764075I$	$3.74146 + 4.83276I$	$8.35445 - 8.23935I$
$u = 1.005070 + 0.357655I$ $a = 0.56639 + 1.94456I$ $b = 0.045950 - 1.405710I$	$4.44624 + 0.88533I$	$2.97033 - 0.43256I$
$u = 1.005070 - 0.357655I$ $a = 0.56639 - 1.94456I$ $b = 0.045950 + 1.405710I$	$4.44624 - 0.88533I$	$2.97033 + 0.43256I$
$u = 0.396207 + 1.023040I$ $a = -0.134995 + 0.574699I$ $b = -0.276299 + 0.112521I$	$-2.52139 + 3.24553I$	$-8.21889 - 3.28316I$
$u = 0.396207 - 1.023040I$ $a = -0.134995 - 0.574699I$ $b = -0.276299 - 0.112521I$	$-2.52139 - 3.24553I$	$-8.21889 + 3.28316I$
$u = -0.304429 + 1.124820I$ $a = 0.038514 + 0.323938I$ $b = -0.820173 + 1.047500I$	$-3.41746 + 4.90251I$	$-7.14123 - 8.81153I$
$u = -0.304429 - 1.124820I$ $a = 0.038514 - 0.323938I$ $b = -0.820173 - 1.047500I$	$-3.41746 - 4.90251I$	$-7.14123 + 8.81153I$
$u = -1.073900 + 0.514023I$ $a = -0.42433 + 1.48714I$ $b = -0.668135 - 0.446989I$	$0.39997 - 5.14043I$	$-3.97875 + 8.74276I$
$u = -1.073900 - 0.514023I$ $a = -0.42433 - 1.48714I$ $b = -0.668135 + 0.446989I$	$0.39997 + 5.14043I$	$-3.97875 - 8.74276I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.360300 + 1.182790I$ $a = 0.1307640 - 0.0393439I$ $b = 1.02402 + 0.99307I$	$0.34389 - 13.57870I$	$-0.70654 + 8.53646I$
$u = 0.360300 - 1.182790I$ $a = 0.1307640 + 0.0393439I$ $b = 1.02402 - 0.99307I$	$0.34389 + 13.57870I$	$-0.70654 - 8.53646I$
$u = 1.161460 + 0.451121I$ $a = -0.090591 + 1.372090I$ $b = 0.330471 - 0.343611I$	$0.48261 + 1.92668I$	$-1.89690 + 0.93654I$
$u = 1.161460 - 0.451121I$ $a = -0.090591 - 1.372090I$ $b = 0.330471 + 0.343611I$	$0.48261 - 1.92668I$	$-1.89690 - 0.93654I$
$u = -0.417016 + 0.598371I$ $a = 0.699354 + 0.161448I$ $b = 0.733122 - 0.200454I$	$-1.51628 + 0.70429I$	$-5.99175 - 2.53077I$
$u = -0.417016 - 0.598371I$ $a = 0.699354 - 0.161448I$ $b = 0.733122 + 0.200454I$	$-1.51628 - 0.70429I$	$-5.99175 + 2.53077I$
$u = 0.723629$ $a = -2.83794$ $b = -0.817850$	-2.61872	-6.04380
$u = 1.294070 + 0.080005I$ $a = 0.001044 - 1.343360I$ $b = -0.37710 + 1.64204I$	$3.31474 - 0.89260I$	$-5.46909 + 7.98486I$
$u = 1.294070 - 0.080005I$ $a = 0.001044 + 1.343360I$ $b = -0.37710 - 1.64204I$	$3.31474 + 0.89260I$	$-5.46909 - 7.98486I$
$u = 0.378286 + 1.348700I$ $a = 0.203259 + 0.019001I$ $b = 0.178022 - 0.791454I$	$-0.69495 + 3.65306I$	$9.41146 - 5.59206I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.378286 - 1.348700I$ $a = 0.203259 - 0.019001I$ $b = 0.178022 + 0.791454I$	$-0.69495 - 3.65306I$	$9.41146 + 5.59206I$
$u = -1.261620 + 0.633674I$ $a = 0.30551 - 1.50157I$ $b = 1.27831 + 1.31389I$	$-0.34268 - 11.10620I$	$-2.89392 + 11.18360I$
$u = -1.261620 - 0.633674I$ $a = 0.30551 + 1.50157I$ $b = 1.27831 - 1.31389I$	$-0.34268 + 11.10620I$	$-2.89392 - 11.18360I$
$u = 1.27757 + 0.69297I$ $a = -0.37637 - 1.58211I$ $b = -1.22288 + 1.11044I$	$3.2833 + 20.2067I$	$1.01289 - 10.64976I$
$u = 1.27757 - 0.69297I$ $a = -0.37637 + 1.58211I$ $b = -1.22288 - 1.11044I$	$3.2833 - 20.2067I$	$1.01289 + 10.64976I$
$u = 1.31560 + 0.78153I$ $a = 0.197901 + 0.676665I$ $b = 0.297387 - 0.693752I$	$2.20531 + 3.28606I$	$18.4949 - 4.2675I$
$u = 1.31560 - 0.78153I$ $a = 0.197901 - 0.676665I$ $b = 0.297387 + 0.693752I$	$2.20531 - 3.28606I$	$18.4949 + 4.2675I$
$u = -1.56081 + 0.05643I$ $a = 0.404127 - 0.969867I$ $b = -0.581198 + 1.166820I$	$7.70413 + 8.70305I$	$5.79340 - 7.62622I$
$u = -1.56081 - 0.05643I$ $a = 0.404127 + 0.969867I$ $b = -0.581198 - 1.166820I$	$7.70413 - 8.70305I$	$5.79340 + 7.62622I$
$u = -0.030538 + 0.374368I$ $a = 0.723845 - 0.624919I$ $b = -0.283244 - 0.791915I$	$1.97471 + 1.86806I$	$2.78153 - 1.05232I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.030538 - 0.374368I$ $a = 0.723845 + 0.624919I$ $b = -0.283244 + 0.791915I$	$1.97471 - 1.86806I$	$2.78153 + 1.05232I$

II. $\boldsymbol{I^u_2 = \langle -2.07\times 10^{51} au^{49} - 3.96\times 10^{51} u^{49} + \cdots + 1.38\times 10^{52} a + 2.98\times 10^{52},\ 1.90\times 10^{50} au^{49} + 3.16\times 10^{50} u^{49} + \cdots - 1.33\times 10^{51} a - 2.21\times 10^{51},\ u^{50} + u^{49} + \cdots + 53u^2 - 5\rangle}$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} a \\ 13.2641au^{49} + 25.3365u^{49} + \cdots - 88.0147a - 190.307 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -35.2693au^{49} - 22.3441u^{49} + \cdots + 248.355a + 171.960 \\ -3.01576au^{49} - 12.9869u^{49} + \cdots + 19.9864a + 88.0792 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 25.0318au^{49} + 72.5925u^{49} + \cdots - 171.285a - 505.558 \\ 4.95115au^{49} + 24.1394u^{49} + \cdots - 34.9056a - 159.189 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 13.2641au^{49} + 25.3365u^{49} + \cdots - 87.0147a - 190.307 \\ 13.2641au^{49} + 25.3365u^{49} + \cdots - 88.0147a - 190.307 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -17.6029au^{49} - 49.6710u^{49} + \cdots + 122.842a + 342.370 \\ 9.42507au^{49} - 1.32561u^{49} + \cdots - 66.3205a - 7.56378 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -29.2084au^{49} - 21.6686u^{49} + \cdots + 212.663a + 171.932 \\ -10.7220au^{49} - 24.2489u^{49} + \cdots + 70.8898a + 188.013 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -27.0280au^{49} - 59.6701u^{49} + \cdots + 189.163a + 418.745 \\ 4.95115au^{49} - 7.04917u^{49} + \cdots - 34.9056a + 35.9109 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -27.0280au^{49} - 59.6701u^{49} + \cdots + 189.163a + 418.745 \\ 4.95115au^{49} - 7.04917u^{49} + \cdots - 34.9056a + 35.9109 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -44.8391u^{49} - 13.6966u^{48} + \cdots - 563.847u + 387.015$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{100} + 5u^{99} + \cdots - 169334u + 14149$
c_2, c_5	$(u^{50} + u^{49} + \cdots + 53u^2 - 5)^2$
c_3, c_4	$u^{100} - 6u^{99} + \cdots + 6u - 1$
c_7, c_{11}	$u^{100} - 2u^{99} + \cdots + 37u - 1$
c_8, c_{10}	$u^{100} - 10u^{98} + \cdots + 18u - 1$
c_9	$(u^{50} - 2u^{49} + \cdots + 21u + 49)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{100} - 3y^{99} + \cdots + 8842579308y + 200194201$
c_2, c_5	$(y^{50} - 27y^{49} + \cdots - 530y + 25)^2$
c_3, c_4	$y^{100} + 12y^{99} + \cdots + 44y + 1$
c_7, c_{11}	$y^{100} - 16y^{99} + \cdots - 3373y + 1$
c_8, c_{10}	$y^{100} - 20y^{99} + \cdots + 154y + 1$
c_9	$(y^{50} - 28y^{49} + \cdots - 46305y + 2401)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.548941 + 0.850283I$ $a = 0.759893 + 0.706027I$ $b = 0.731453 - 0.812003I$	$0.54701 + 3.37624I$	$-1.0000 - 9.25407I$
$u = 0.548941 + 0.850283I$ $a = 0.246103 + 0.095666I$ $b = -0.567136 + 0.180162I$	$0.54701 + 3.37624I$	$-1.0000 - 9.25407I$
$u = 0.548941 - 0.850283I$ $a = 0.759893 - 0.706027I$ $b = 0.731453 + 0.812003I$	$0.54701 - 3.37624I$	$-1.0000 + 9.25407I$
$u = 0.548941 - 0.850283I$ $a = 0.246103 - 0.095666I$ $b = -0.567136 - 0.180162I$	$0.54701 - 3.37624I$	$-1.0000 + 9.25407I$
$u = 0.812718 + 0.561361I$ $a = 0.447024 + 0.766749I$ $b = -0.0033739 + 0.1015400I$	$1.85560 - 0.04601I$	$3.11402 - 1.05223I$
$u = 0.812718 + 0.561361I$ $a = -0.063750 - 0.197431I$ $b = -1.025610 - 0.625983I$	$1.85560 - 0.04601I$	$3.11402 - 1.05223I$
$u = 0.812718 - 0.561361I$ $a = 0.447024 - 0.766749I$ $b = -0.0033739 - 0.1015400I$	$1.85560 + 0.04601I$	$3.11402 + 1.05223I$
$u = 0.812718 - 0.561361I$ $a = -0.063750 + 0.197431I$ $b = -1.025610 + 0.625983I$	$1.85560 + 0.04601I$	$3.11402 + 1.05223I$
$u = -1.016920 + 0.224360I$ $a = -0.19678 - 1.95023I$ $b = -0.096238 + 1.097620I$	$5.85957 - 0.63163I$	$13.37806 + 1.18653I$
$u = -1.016920 + 0.224360I$ $a = -1.34222 + 1.62787I$ $b = 0.52165 - 1.66824I$	$5.85957 - 0.63163I$	$13.37806 + 1.18653I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.016920-0.224360I$ $a=-0.19678+1.95023I$ $b=-0.096238-1.097620I$	$5.85957+0.63163I$	$13.37806-1.18653I$
$u=-1.016920-0.224360I$ $a=-1.34222-1.62787I$ $b=\ \ 0.52165+1.66824I$	$5.85957+0.63163I$	$13.37806-1.18653I$
$u=\ \ 0.836854+0.310102I$ $a=-0.412900-0.092303I$ $b=\ \ 1.40884+0.61468I$	$-2.83417+1.43022I$	$-1.90225-5.13073I$
$u=\ \ 0.836854+0.310102I$ $a=\ \ 0.22663-2.88245I$ $b=-0.99852+1.16218I$	$-2.83417+1.43022I$	$-1.90225-5.13073I$
$u=\ \ 0.836854-0.310102I$ $a=-0.412900+0.092303I$ $b=\ \ 1.40884-0.61468I$	$-2.83417-1.43022I$	$-1.90225+5.13073I$
$u=\ \ 0.836854-0.310102I$ $a=\ \ 0.22663+2.88245I$ $b=-0.99852-1.16218I$	$-2.83417-1.43022I$	$-1.90225+5.13073I$
$u=\ \ 0.891678$ $a=-1.52379+1.36189I$ $b=\ \ 1.77787-0.55907I$	2.18885	3.18030
$u=\ \ 0.891678$ $a=-1.52379-1.36189I$ $b=\ \ 1.77787+0.55907I$	2.18885	3.18030
$u=\ \ 0.135481+0.857453I$ $a=\ \ 1.63578+0.50962I$ $b=\ \ 1.066030+0.871487I$	$0.34967+6.29766I$	$-1.51708-11.49060I$
$u=\ \ 0.135481+0.857453I$ $a=-0.075738+0.233544I$ $b=-0.806693+0.715605I$	$0.34967+6.29766I$	$-1.51708-11.49060I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.135481 - 0.857453I$ $a = 1.63578 - 0.50962I$ $b = 1.066030 - 0.871487I$	$0.34967 - 6.29766I$	$-1.51708 + 11.49060I$
$u = 0.135481 - 0.857453I$ $a = -0.075738 - 0.233544I$ $b = -0.806693 - 0.715605I$	$0.34967 - 6.29766I$	$-1.51708 + 11.49060I$
$u = -0.701301 + 0.482229I$ $a = 0.185491 + 0.422356I$ $b = -1.197340 - 0.259748I$	$-1.26220 - 7.42402I$	$-2.60909 + 11.71667I$
$u = -0.701301 + 0.482229I$ $a = -0.83741 + 2.98748I$ $b = -0.717876 - 1.016820I$	$-1.26220 - 7.42402I$	$-2.60909 + 11.71667I$
$u = -0.701301 - 0.482229I$ $a = 0.185491 - 0.422356I$ $b = -1.197340 + 0.259748I$	$-1.26220 + 7.42402I$	$-2.60909 - 11.71667I$
$u = -0.701301 - 0.482229I$ $a = -0.83741 - 2.98748I$ $b = -0.717876 + 1.016820I$	$-1.26220 + 7.42402I$	$-2.60909 - 11.71667I$
$u = -0.868601 + 0.770886I$ $a = -0.293051 - 0.527261I$ $b = 0.745628 + 0.041107I$	$-0.74310 + 2.60526I$	0
$u = -0.868601 + 0.770886I$ $a = 0.099270 + 0.385470I$ $b = 1.063480 - 0.764874I$	$-0.74310 + 2.60526I$	0
$u = -0.868601 - 0.770886I$ $a = -0.293051 + 0.527261I$ $b = 0.745628 - 0.041107I$	$-0.74310 - 2.60526I$	0
$u = -0.868601 - 0.770886I$ $a = 0.099270 - 0.385470I$ $b = 1.063480 + 0.764874I$	$-0.74310 - 2.60526I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.108720 + 0.368281I$ $a = -1.105340 + 0.719590I$ $b = 0.597907 - 1.241130I$	$4.78147 + 2.43283I$	0
$u = -1.108720 + 0.368281I$ $a = 1.02939 - 1.34421I$ $b = 0.103182 + 0.382370I$	$4.78147 + 2.43283I$	0
$u = -1.108720 - 0.368281I$ $a = -1.105340 - 0.719590I$ $b = 0.597907 + 1.241130I$	$4.78147 - 2.43283I$	0
$u = -1.108720 - 0.368281I$ $a = 1.02939 + 1.34421I$ $b = 0.103182 - 0.382370I$	$4.78147 - 2.43283I$	0
$u = 1.110180 + 0.404435I$ $a = 1.320230 - 0.191330I$ $b = 0.779604 - 0.058867I$	$1.44032 + 9.60257I$	0
$u = 1.110180 + 0.404435I$ $a = -0.11883 + 2.12414I$ $b = 1.102120 - 0.793778I$	$1.44032 + 9.60257I$	0
$u = 1.110180 - 0.404435I$ $a = 1.320230 + 0.191330I$ $b = 0.779604 + 0.058867I$	$1.44032 - 9.60257I$	0
$u = 1.110180 - 0.404435I$ $a = -0.11883 - 2.12414I$ $b = 1.102120 + 0.793778I$	$1.44032 - 9.60257I$	0
$u = -1.067760 + 0.532641I$ $a = -0.837760 + 0.937378I$ $b = -0.867740 - 0.348502I$	$0.09660 - 5.64563I$	0
$u = -1.067760 + 0.532641I$ $a = -0.26251 + 1.80511I$ $b = -0.976959 - 0.654250I$	$0.09660 - 5.64563I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.067760-0.532641I$ $a=-0.837760-0.937378I$ $b=-0.867740+0.348502I$	$0.09660+5.64563I$	0
$u=-1.067760-0.532641I$ $a=-0.26251-1.80511I$ $b=-0.976959+0.654250I$	$0.09660+5.64563I$	0
$u=-1.174890+0.341252I$ $a=\ \ 0.00517+1.59762I$ $b=-1.50003-0.68731I$	$5.24587-6.28986I$	0
$u=-1.174890+0.341252I$ $a=-0.27694-1.79529I$ $b=\ \ 0.605227+0.942427I$	$5.24587-6.28986I$	0
$u=-1.174890-0.341252I$ $a=\ \ 0.00517-1.59762I$ $b=-1.50003+0.68731I$	$5.24587+6.28986I$	0
$u=-1.174890-0.341252I$ $a=-0.27694+1.79529I$ $b=\ \ 0.605227-0.942427I$	$5.24587+6.28986I$	0
$u=\ \ 1.122590+0.526509I$ $a=\ \ 0.27807+1.97868I$ $b=\ \ 1.34270-1.10887I$	$3.61514+10.02170I$	0
$u=\ \ 1.122590+0.526509I$ $a=-0.41461-1.97138I$ $b=-0.256101+0.787916I$	$3.61514+10.02170I$	0
$u=\ \ 1.122590-0.526509I$ $a=\ \ 0.27807-1.97868I$ $b=\ \ 1.34270+1.10887I$	$3.61514-10.02170I$	0
$u=\ \ 1.122590-0.526509I$ $a=-0.41461+1.97138I$ $b=-0.256101-0.787916I$	$3.61514-10.02170I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.310212 + 0.659807I$ $a = 1.40414 - 0.49455I$ $b = 0.595491 - 0.521674I$	$-1.97473 + 1.08010I$	$-6.48617 - 1.37548I$
$u = -0.310212 + 0.659807I$ $a = 0.393146 + 0.047451I$ $b = 1.003050 - 0.403828I$	$-1.97473 + 1.08010I$	$-6.48617 - 1.37548I$
$u = -0.310212 - 0.659807I$ $a = 1.40414 + 0.49455I$ $b = 0.595491 + 0.521674I$	$-1.97473 - 1.08010I$	$-6.48617 + 1.37548I$
$u = -0.310212 - 0.659807I$ $a = 0.393146 - 0.047451I$ $b = 1.003050 + 0.403828I$	$-1.97473 - 1.08010I$	$-6.48617 + 1.37548I$
$u = 0.299438 + 0.660743I$ $a = -0.08785 - 1.45420I$ $b = 0.410545 + 0.622691I$	$1.22345 - 5.39271I$	$3.60568 + 7.27334I$
$u = 0.299438 + 0.660743I$ $a = -0.206854 - 0.481835I$ $b = -1.113500 - 0.825660I$	$1.22345 - 5.39271I$	$3.60568 + 7.27334I$
$u = 0.299438 - 0.660743I$ $a = -0.08785 + 1.45420I$ $b = 0.410545 - 0.622691I$	$1.22345 + 5.39271I$	$3.60568 - 7.27334I$
$u = 0.299438 - 0.660743I$ $a = -0.206854 + 0.481835I$ $b = -1.113500 + 0.825660I$	$1.22345 + 5.39271I$	$3.60568 - 7.27334I$
$u = -0.714215 + 0.033943I$ $a = -1.22507 + 1.07240I$ $b = -0.861797 - 0.597056I$	$2.52892 - 4.60236I$	$5.46658 + 4.68357I$
$u = -0.714215 + 0.033943I$ $a = -1.24729 + 2.67337I$ $b = 0.940472 - 0.274274I$	$2.52892 - 4.60236I$	$5.46658 + 4.68357I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.714215 - 0.033943I$ $a = -1.22507 - 1.07240I$ $b = -0.861797 + 0.597056I$	$2.52892 + 4.60236I$	$5.46658 - 4.68357I$
$u = -0.714215 - 0.033943I$ $a = -1.24729 - 2.67337I$ $b = 0.940472 + 0.274274I$	$2.52892 + 4.60236I$	$5.46658 - 4.68357I$
$u = -1.29400$ $a = 0.958908$ $b = -0.502636$	-1.60735	0
$u = -1.29400$ $a = 0.943682$ $b = 1.09271$	-1.60735	0
$u = -0.661065 + 0.201573I$ $a = 0.644813 + 0.337066I$ $b = 1.072810 + 0.133987I$	$-2.96398 - 1.00000I$	$-4.93204 + 6.02487I$
$u = -0.661065 + 0.201573I$ $a = 1.46502 + 2.77666I$ $b = -0.313863 + 0.081467I$	$-2.96398 - 1.00000I$	$-4.93204 + 6.02487I$
$u = -0.661065 - 0.201573I$ $a = 0.644813 - 0.337066I$ $b = 1.072810 - 0.133987I$	$-2.96398 + 1.00000I$	$-4.93204 - 6.02487I$
$u = -0.661065 - 0.201573I$ $a = 1.46502 - 2.77666I$ $b = -0.313863 - 0.081467I$	$-2.96398 + 1.00000I$	$-4.93204 - 6.02487I$
$u = 1.067610 + 0.768264I$ $a = -0.585773 - 0.416162I$ $b = -0.473430 + 0.422720I$	$2.32102 + 5.65331I$	0
$u = 1.067610 + 0.768264I$ $a = 0.77026 + 1.52994I$ $b = 1.46082 - 1.09833I$	$2.32102 + 5.65331I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.067610 - 0.768264I$ $a = -0.585773 + 0.416162I$ $b = -0.473430 - 0.422720I$	$2.32102 - 5.65331I$	0
$u = 1.067610 - 0.768264I$ $a = 0.77026 - 1.52994I$ $b = 1.46082 + 1.09833I$	$2.32102 - 5.65331I$	0
$u = -1.232480 + 0.465944I$ $a = 1.083150 - 0.803208I$ $b = -1.07848 + 1.74540I$	$4.22116 - 10.84980I$	0
$u = -1.232480 + 0.465944I$ $a = 0.01539 - 1.74787I$ $b = 1.09006 + 1.21638I$	$4.22116 - 10.84980I$	0
$u = -1.232480 - 0.465944I$ $a = 1.083150 + 0.803208I$ $b = -1.07848 - 1.74540I$	$4.22116 + 10.84980I$	0
$u = -1.232480 - 0.465944I$ $a = 0.01539 + 1.74787I$ $b = 1.09006 - 1.21638I$	$4.22116 + 10.84980I$	0
$u = 0.595267$ $a = 0.834754 + 0.433598I$ $b = -0.717567 + 0.382010I$	2.22273	4.86780
$u = 0.595267$ $a = 0.834754 - 0.433598I$ $b = -0.717567 - 0.382010I$	2.22273	4.86780
$u = 1.308860 + 0.523454I$ $a = 0.791106 + 0.745051I$ $b = -0.77725 - 1.53501I$	$3.40486 + 2.98616I$	0
$u = 1.308860 + 0.523454I$ $a = -0.114612 - 0.646383I$ $b = -0.449568 + 0.414428I$	$3.40486 + 2.98616I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.308860 - 0.523454I$ $a = 0.791106 - 0.745051I$ $b = -0.77725 + 1.53501I$	$3.40486 - 2.98616I$	0
$u = 1.308860 - 0.523454I$ $a = -0.114612 + 0.646383I$ $b = -0.449568 - 0.414428I$	$3.40486 - 2.98616I$	0
$u = 1.38998 + 0.36438I$ $a = -0.264780 - 0.693877I$ $b = -0.142215 + 0.989906I$	$4.42644 - 0.76806I$	0
$u = 1.38998 + 0.36438I$ $a = 0.159794 - 1.264000I$ $b = -1.91800 + 1.10468I$	$4.42644 - 0.76806I$	0
$u = 1.38998 - 0.36438I$ $a = -0.264780 + 0.693877I$ $b = -0.142215 - 0.989906I$	$4.42644 + 0.76806I$	0
$u = 1.38998 - 0.36438I$ $a = 0.159794 + 1.264000I$ $b = -1.91800 - 1.10468I$	$4.42644 + 0.76806I$	0
$u = 1.45898$ $a = 0.477828 + 1.118070I$ $b = -0.592114 - 0.977099I$	7.96610	0
$u = 1.45898$ $a = 0.477828 - 1.118070I$ $b = -0.592114 + 0.977099I$	7.96610	0
$u = 0.468862 + 0.251297I$ $a = -0.818944 - 0.404936I$ $b = -1.187340 - 0.500194I$	$-0.77161 - 6.39968I$	$-10.97216 - 0.34215I$
$u = 0.468862 + 0.251297I$ $a = 0.10642 - 5.48970I$ $b = -0.148091 - 0.259941I$	$-0.77161 - 6.39968I$	$-10.97216 - 0.34215I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.468862 - 0.251297I$ $a = -0.818944 + 0.404936I$ $b = -1.187340 + 0.500194I$	$-0.77161 + 6.39968I$	$-10.97216 + 0.34215I$
$u = 0.468862 - 0.251297I$ $a = 0.10642 + 5.48970I$ $b = -0.148091 + 0.259941I$	$-0.77161 + 6.39968I$	$-10.97216 + 0.34215I$
$u = -1.33427 + 0.71530I$ $a = 0.050006 - 0.850151I$ $b = 0.619525 + 0.529012I$	$2.25912 - 11.62680I$	0
$u = -1.33427 + 0.71530I$ $a = -0.37021 + 1.47381I$ $b = -1.17795 - 1.04701I$	$2.25912 - 11.62680I$	0
$u = -1.33427 - 0.71530I$ $a = 0.050006 + 0.850151I$ $b = 0.619525 - 0.529012I$	$2.25912 + 11.62680I$	0
$u = -1.33427 - 0.71530I$ $a = -0.37021 - 1.47381I$ $b = -1.17795 + 1.04701I$	$2.25912 + 11.62680I$	0
$u = -0.23704 + 1.49901I$ $a = 0.247480 + 0.118820I$ $b = 0.913855 - 1.070400I$	$-1.17810 + 4.31731I$	0
$u = -0.23704 + 1.49901I$ $a = 0.0553566 - 0.1028220I$ $b = -0.282573 + 0.046634I$	$-1.17810 + 4.31731I$	0
$u = -0.23704 - 1.49901I$ $a = 0.247480 - 0.118820I$ $b = 0.913855 + 1.070400I$	$-1.17810 - 4.31731I$	0
$u = -0.23704 - 1.49901I$ $a = 0.0553566 + 0.1028220I$ $b = -0.282573 - 0.046634I$	$-1.17810 - 4.31731I$	0

III. $I_3^u = \langle -120u^{11}a - 53u^{11} + \cdots + 159a - 21,\ 2244u^{11}a - 88u^{11} + \cdots - 4869a + 704,\ u^{12} - 2u^{10} + \cdots - u - 1\rangle$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} a \\ 1.34831au^{11} + 0.595506u^{11} + \cdots - 1.78652a + 0.235955 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.78652au^{11} + 2.13483u^{11} + \cdots + 4.29213a - 4.07865 \\ -1.98876au^{11} - 0.0449438u^{11} + \cdots + 1.91011a - 0.640449 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 5.40449au^{11} + 3.10112u^{11} + \cdots - 5.23596a + 1.19101 \\ -1.39326au^{11} - 5.07865u^{11} + \cdots + 1.14607a + 7.62921 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.34831au^{11} + 0.595506u^{11} + \cdots - 0.786517a + 0.235955 \\ 1.34831au^{11} + 0.595506u^{11} + \cdots - 1.78652a + 0.235955 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.78652au^{11} + 4.29213u^{11} + \cdots - 2.29213a - 6.33708 \\ -1.16854au^{11} + 3.20225u^{11} + \cdots + 1.34831a - 6.61798 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.25843au^{11} + 4.31461u^{11} + \cdots + 4.06742a - 8.51685 \\ 1.92135au^{11} + 8.61798u^{11} + \cdots - 1.37079a - 11.9438 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.95506au^{11} + 5.02247u^{11} + \cdots - 3.64045a - 6.17978 \\ -1.39326au^{11} + 2.56180u^{11} + \cdots + 1.14607a - 5.49438 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.95506au^{11} + 5.02247u^{11} + \cdots - 3.64045a - 6.17978 \\ -1.39326au^{11} + 2.56180u^{11} + \cdots + 1.14607a - 5.49438 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1173}{89}u^{11} - \frac{803}{89}u^{10} - \frac{2101}{89}u^9 + \frac{1453}{89}u^8 - \frac{1655}{89}u^7 + \frac{1286}{89}u^6 + \frac{9112}{89}u^5 - \frac{8558}{89}u^4 - \frac{7879}{89}u^3 + \frac{11400}{89}u^2 + \frac{540}{89}u - \frac{2264}{89}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 5u^{22} + \cdots + 36u + 12$
c_2	$(u^{12} - 2u^{10} - u^8 + 8u^6 + 2u^5 - 10u^4 - 5u^3 + 6u^2 + u - 1)^2$
c_3	$u^{24} + 5u^{23} + \cdots - 11u^2 - 3$
c_4	$u^{24} - 5u^{23} + \cdots - 11u^2 - 3$
c_5	$(u^{12} - 2u^{10} - u^8 + 8u^6 - 2u^5 - 10u^4 + 5u^3 + 6u^2 - u - 1)^2$
c_6	$u^{24} - 5u^{22} + \cdots - 36u + 12$
c_7	$u^{24} + 3u^{23} + \cdots - u + 1$
c_8	$3(3u^{24} + 3u^{23} + \cdots + 2u - 1)$
c_9	$3(3u^{24} - 16u^{22} + \cdots + 343u^2 - 137)$
c_{10}	$3(3u^{24} - 3u^{23} + \cdots - 2u - 1)$
c_{11}	$u^{24} - 3u^{23} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{24} - 10y^{23} + \cdots + 192y + 144$
c_2, c_5	$(y^{12} - 4y^{11} + \cdots - 13y + 1)^2$
c_3, c_4	$y^{24} - 9y^{23} + \cdots + 66y + 9$
c_7, c_{11}	$y^{24} - 3y^{23} + \cdots - 5y + 1$
c_8, c_{10}	$9(9y^{24} - 33y^{23} + \cdots + 24y + 1)$
c_9	$9(3y^{12} - 16y^{11} + \cdots + 343y - 137)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.810098 + 0.637530I$ $a = -0.712016 - 0.109438I$ $b = -0.705304 + 0.445585I$	$1.58921 + 5.87392I$	$1.28588 - 11.41546I$
$u = 0.810098 + 0.637530I$ $a = -1.10082 - 1.95581I$ $b = -1.212280 + 0.421660I$	$1.58921 + 5.87392I$	$1.28588 - 11.41546I$
$u = 0.810098 - 0.637530I$ $a = -0.712016 + 0.109438I$ $b = -0.705304 - 0.445585I$	$1.58921 - 5.87392I$	$1.28588 + 11.41546I$
$u = 0.810098 - 0.637530I$ $a = -1.10082 + 1.95581I$ $b = -1.212280 - 0.421660I$	$1.58921 - 5.87392I$	$1.28588 + 11.41546I$
$u = -1.17015$ $a = -1.17384$ $b = -1.00855$	-1.34549	9.58470
$u = -1.17015$ $a = -1.28421$ $b = 0.407100$	-1.34549	9.58470
$u = -1.186540 + 0.501873I$ $a = -0.028919 + 1.234360I$ $b = 0.045887 - 0.767620I$	$2.83828 - 9.79828I$	$0.33528 + 7.97194I$
$u = -1.186540 + 0.501873I$ $a = 0.14133 - 1.83780I$ $b = 1.22084 + 1.04970I$	$2.83828 - 9.79828I$	$0.33528 + 7.97194I$
$u = -1.186540 - 0.501873I$ $a = -0.028919 - 1.234360I$ $b = 0.045887 + 0.767620I$	$2.83828 + 9.79828I$	$0.33528 - 7.97194I$
$u = -1.186540 - 0.501873I$ $a = 0.14133 + 1.83780I$ $b = 1.22084 - 1.04970I$	$2.83828 + 9.79828I$	$0.33528 - 7.97194I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.286400 + 0.289867I$ $a = -0.357329 - 0.892157I$ $b = -0.110722 + 1.183840I$	$4.17779 - 0.93929I$	$0.56283 + 7.92150I$
$u = 1.286400 + 0.289867I$ $a = -0.01095 + 1.46966I$ $b = 1.29407 - 1.25340I$	$4.17779 - 0.93929I$	$0.56283 + 7.92150I$
$u = 1.286400 - 0.289867I$ $a = -0.357329 + 0.892157I$ $b = -0.110722 - 1.183840I$	$4.17779 + 0.93929I$	$0.56283 - 7.92150I$
$u = 1.286400 - 0.289867I$ $a = -0.01095 - 1.46966I$ $b = 1.29407 + 1.25340I$	$4.17779 + 0.93929I$	$0.56283 - 7.92150I$
$u = -0.04829 + 1.42979I$ $a = -0.260226 - 0.088772I$ $b = -0.791245 + 1.038880I$	$-1.01122 + 4.32869I$	$14.3327 - 16.3128I$
$u = -0.04829 + 1.42979I$ $a = -0.189652 - 0.006595I$ $b = 0.054727 - 0.250321I$	$-1.01122 + 4.32869I$	$14.3327 - 16.3128I$
$u = -0.04829 - 1.42979I$ $a = -0.260226 + 0.088772I$ $b = -0.791245 - 1.038880I$	$-1.01122 - 4.32869I$	$14.3327 + 16.3128I$
$u = -0.04829 - 1.42979I$ $a = -0.189652 + 0.006595I$ $b = 0.054727 + 0.250321I$	$-1.01122 - 4.32869I$	$14.3327 + 16.3128I$
$u = -0.520258 + 0.093250I$ $a = -0.041004 + 0.846052I$ $b = -1.230390 + 0.458040I$	$-0.47186 + 6.58662I$	$8.10608 - 10.95891I$
$u = -0.520258 + 0.093250I$ $a = 1.49677 + 5.60060I$ $b = 0.306332 - 0.620019I$	$-0.47186 + 6.58662I$	$8.10608 - 10.95891I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.520258 - 0.093250I$ $a = -0.041004 - 0.846052I$ $b = -1.230390 - 0.458040I$	$-0.47186 - 6.58662I$	$8.10608 + 10.95891I$
$u = -0.520258 - 0.093250I$ $a = 1.49677 - 5.60060I$ $b = 0.306332 + 0.620019I$	$-0.47186 - 6.58662I$	$8.10608 + 10.95891I$
$u = 0.487341$ $a = 0.79184 + 2.17616I$ $b = 0.928806 - 0.477456I$	-3.02932	-4.83040
$u = 0.487341$ $a = 0.79184 - 2.17616I$ $b = 0.928806 + 0.477456I$	-3.02932	-4.83040

IV.

$\boldsymbol{I^u_4 = \langle -u^3+u^2+b-1,\ -2u^4+2u^3+u^2+a-2u-2,\ u^5-u^4-u^3+2u^2+u-1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -11u^4+9u^3+3u^2-18u-5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^5 - 5y^4 + 8y^3 - 7y^2 + 3y - 1$
c_2, c_5	$y^5 - 3y^4 + 7y^3 - 8y^2 + 5y - 1$
c_3, c_4	$y^5 + 2y^4 + y^3 - 4y^2 - 4y - 1$
c_7, c_{11}	$y^5 - 8y^4 + 20y^3 - 9y^2 + 2y - 1$
c_8, c_{10}	$y^5 + 4y^4 + 4y^3 - y^2 - 2y - 1$
c_9	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.904429 + 0.339760I$ $a = \ \ 0.57355 - 2.02208I$ $b = -0.12916 + 1.40912I$	$4.86920 - 1.42206I$	$8.27331 + 8.69048I$
$u = -0.904429 - 0.339760I$ $a = \ \ 0.57355 + 2.02208I$ $b = -0.12916 - 1.40912I$	$4.86920 + 1.42206I$	$8.27331 - 8.69048I$
$u = \ \ 1.116850 + 0.784420I$ $a = -0.402467 - 0.658928I$ $b = -0.300574 + 0.700535I$	$1.84330 + 3.45949I$	$0.15254 - 11.15264I$
$u = \ \ 1.116850 - 0.784420I$ $a = -0.402467 + 0.658928I$ $b = -0.300574 - 0.700535I$	$1.84330 - 3.45949I$	$0.15254 + 11.15264I$
$u = \ \ 0.575152$ $a = \ \ 2.65784$ $b = \ \ 0.859460$	-3.55538	-13.8520

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5+u^4-2u^3-u^2+u+1)(u^{24}-5u^{22}+\cdots+36u+12)$ $\cdot(u^{31}-7u^{30}+\cdots+96u-12)(u^{100}+5u^{99}+\cdots-169334u+14149)$
c_2	$(u^5+u^4-u^3-2u^2+u+1)$ $\cdot(u^{12}-2u^{10}-u^8+8u^6+2u^5-10u^4-5u^3+6u^2+u-1)^2$ $\cdot(u^{31}-4u^{30}+\cdots+50u-28)(u^{50}+u^{49}+\cdots+53u^2-5)^2$
c_3	$(u^5+u^3+2u^2+1)(u^{24}+5u^{23}+\cdots-11u^2-3)(u^{31}-2u^{30}+\cdots-9u+3)$ $\cdot(u^{100}-6u^{99}+\cdots+6u-1)$
c_4	$(u^5+u^3-2u^2-1)(u^{24}-5u^{23}+\cdots-11u^2-3)(u^{31}-2u^{30}+\cdots-9u+3)$ $\cdot(u^{100}-6u^{99}+\cdots+6u-1)$
c_5	$(u^5-u^4-u^3+2u^2+u-1)$ $\cdot(u^{12}-2u^{10}-u^8+8u^6-2u^5-10u^4+5u^3+6u^2-u-1)^2$ $\cdot(u^{31}-4u^{30}+\cdots+50u-28)(u^{50}+u^{49}+\cdots+53u^2-5)^2$
c_6	$(u^5-u^4-2u^3+u^2+u-1)(u^{24}-5u^{22}+\cdots-36u+12)$ $\cdot(u^{31}-7u^{30}+\cdots+96u-12)(u^{100}+5u^{99}+\cdots-169334u+14149)$
c_7	$(u^5+4u^4+4u^3-u^2-2u-1)(u^{24}+3u^{23}+\cdots-u+1)$ $\cdot(u^{31}-4u^{30}+\cdots-3u-1)(u^{100}-2u^{99}+\cdots+37u-1)$
c_8	$9(u^5+2u^3-u^2-1)(3u^{24}+3u^{23}+\cdots+2u-1)$ $\cdot(3u^{31}-6u^{30}+\cdots+5u-1)(u^{100}-10u^{98}+\cdots+18u-1)$
c_9	$9u^5(3u^{24}-16u^{22}+\cdots+343u^2-137)$ $\cdot(3u^{31}+9u^{30}+\cdots+832u+128)(u^{50}-2u^{49}+\cdots+21u+49)^2$
c_{10}	$9(u^5+2u^3+u^2+1)(3u^{24}-3u^{23}+\cdots-2u-1)$ $\cdot(3u^{31}-6u^{30}+\cdots+5u-1)(u^{100}-10u^{98}+\cdots+18u-1)$
c_{11}	$(u^5-4u^4+4u^3+u^2-2u+1)(u^{24}-3u^{23}+\cdots+u+1)$ $\cdot(u^{31}-4u^{30}+\cdots-3u-1)(u^{100}-2u^{99}+\cdots+37u-1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^5 - 5y^4 + 8y^3 - 7y^2 + 3y - 1)(y^{24} - 10y^{23} + \cdots + 192y + 144)$ $\cdot (y^{31} + 5y^{30} + \cdots - 1776y - 144)$ $\cdot (y^{100} - 3y^{99} + \cdots + 8842579308y + 200194201)$
c_2, c_5	$(y^5 - 3y^4 + 7y^3 - 8y^2 + 5y - 1)(y^{12} - 4y^{11} + \cdots - 13y + 1)^2$ $\cdot (y^{31} - 12y^{30} + \cdots - 7860y - 784)(y^{50} - 27y^{49} + \cdots - 530y + 25)^2$
c_3, c_4	$(y^5 + 2y^4 + y^3 - 4y^2 - 4y - 1)(y^{24} - 9y^{23} + \cdots + 66y + 9)$ $\cdot (y^{31} - 6y^{30} + \cdots + 51y - 9)(y^{100} + 12y^{99} + \cdots + 44y + 1)$
c_7, c_{11}	$(y^5 - 8y^4 + 20y^3 - 9y^2 + 2y - 1)(y^{24} - 3y^{23} + \cdots - 5y + 1)$ $\cdot (y^{31} + 2y^{30} + \cdots + 3y - 1)(y^{100} - 16y^{99} + \cdots - 3373y + 1)$
c_8, c_{10}	$81(y^5 + 4y^4 + \cdots - 2y - 1)(9y^{24} - 33y^{23} + \cdots + 24y + 1)$ $\cdot (9y^{31} + 120y^{30} + \cdots + 9y - 1)(y^{100} - 20y^{99} + \cdots + 154y + 1)$
c_9	$81y^5(3y^{12} - 16y^{11} + \cdots + 343y - 137)^2$ $\cdot (9y^{31} + 57y^{30} + \cdots + 331776y - 16384)$ $\cdot (y^{50} - 28y^{49} + \cdots - 46305y + 2401)^2$