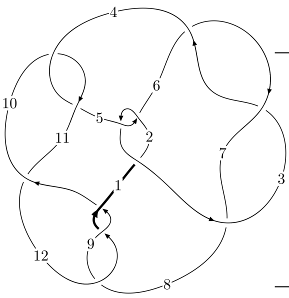
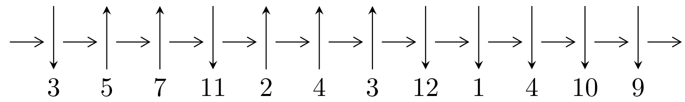
$12n_{0330}$ ($K12n_{0330}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 7.74526 \times 10^{16} u^{25} - 1.33763 \times 10^{17} u^{24} + \cdots + 7.07898 \times 10^{18} b + 5.73871 \times 10^{18}, \\
& -6.55698 \times 10^{18} u^{25} + 2.22473 \times 10^{19} u^{24} + \cdots + 1.41580 \times 10^{19} a - 1.02368 \times 10^{20},\ u^{26} - 3u^{25} + \cdots + 6u -
\end{aligned}$$

$$\begin{aligned}
I_2^u = \langle & u^{13} + u^{12} - u^{11} - 2u^{10} + 4u^9 + 5u^8 - 3u^7 - 6u^6 + 4u^5 + 6u^4 - u^2 a - 2u^3 - 2u^2 + b + a + 2u + 1, \\
& u^{13} + 2u^{12} - 3u^{10} + 2u^9 + 9u^8 + 2u^7 - 9u^6 - 2u^5 + 10u^4 + 4u^3 + a^2 + au - 3u^2 + 3, \\
& u^{14} + u^{13} - u^{12} - 2u^{11} + 4u^{10} + 5u^9 - 3u^8 - 6u^7 + 4u^6 + 6u^5 - 2u^4 - 2u^3 + 2u^2 + u - 1\rangle
\end{aligned}$$

$$\begin{aligned}
I_3^u = \langle & -u^9 + u^8 + 3u^7 - 2u^6 - 4u^5 + u^4 + u^3 + 2u^2 + b + u - 1,\ -u^8 + 2u^6 - u^4 - 2u^2 + a + 1, \\
& u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ 2b + 1,\ v - 2\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 65 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.

$$\boldsymbol{I_1^u = \langle 7.75\times10^{16}u^{25}-1.34\times10^{17}u^{24}+\cdots+7.08\times10^{18}b+5.74\times10^{18},\ -6.56\times10^{18}u^{25}+2.22\times10^{19}u^{24}+\cdots+1.42\times10^{19}a-1.02\times10^{20},\ u^{26}-3u^{25}+\cdots+6u+8\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.463130u^{25} - 1.57137u^{24} + \cdots - 7.38977u + 7.23041 \\ -0.0109412u^{25} + 0.0188959u^{24} + \cdots + 0.948527u - 0.810670 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.452189u^{25} + 1.55247u^{24} + \cdots + 6.44124u - 6.41974 \\ -0.139816u^{25} + 0.520475u^{24} + \cdots + 3.39062u - 2.37790 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.05514u^{25} - 3.64431u^{24} + \cdots - 16.2216u + 16.0280 \\ 0.00913190u^{25} - 0.0544808u^{24} + \cdots + 0.384691u - 0.813121 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.257452u^{25} + 0.942913u^{24} + \cdots + 3.82805u - 4.96393 \\ -0.288157u^{25} + 0.949849u^{24} + \cdots + 4.59799u - 3.63094 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.06427u^{25} + 3.69879u^{24} + \cdots + 15.8369u - 15.2149 \\ -0.283474u^{25} + 1.06311u^{24} + \cdots + 5.86288u - 4.86106 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.463130u^{25} - 1.57137u^{24} + \cdots - 7.38977u + 7.23041 \\ 0.183796u^{25} - 0.590662u^{24} + \cdots - 1.66466u + 0.645138 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.28428u^{25} - 4.51273u^{24} + \cdots - 21.0928u + 19.1876 \\ 0.0634646u^{25} - 0.249171u^{24} + \cdots - 0.606969u + 0.888390 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{2235431246280387471}{2022564411084206648}u^{25} - \frac{5038395754629210 6623}{14157950877589446536}u^{24} + \cdots - \frac{9685514526006959 2069}{14157950877589446536}u + \frac{7327204133364089 2293}{7078975438794723268}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} + 5u^{25} + \cdots - 5u + 1$
c_2, c_3, c_5 c_6, c_7	$u^{26} - u^{25} + \cdots - 3u - 1$
c_4, c_{10}	$u^{26} - 3u^{25} + \cdots + 6u + 8$
c_8, c_9, c_{12}	$u^{26} - 2u^{25} + \cdots + 7u - 4$
c_{11}	$u^{26} + 9u^{25} + \cdots + 436u + 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26}+37y^{25}+\cdots-157y+1$
c_2,c_3,c_5 c_6,c_7	$y^{26}+5y^{25}+\cdots-5y+1$
c_4,c_{10}	$y^{26}-9y^{25}+\cdots-436y+64$
c_8,c_9,c_{12}	$y^{26}-22y^{25}+\cdots-65y+16$
c_{11}	$y^{26}+15y^{25}+\cdots-142352y+4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.982745 + 0.211485I$ $a = 0.402843 - 0.499085I$ $b = -0.232498 + 0.875894I$	$-1.77257 + 0.70535I$	$-4.40558 + 0.51415I$
$u = -0.982745 - 0.211485I$ $a = 0.402843 + 0.499085I$ $b = -0.232498 - 0.875894I$	$-1.77257 - 0.70535I$	$-4.40558 - 0.51415I$
$u = 0.010508 + 1.069030I$ $a = -0.600779 - 0.379610I$ $b = 0.115449 + 0.616202I$	$-3.79097 - 1.46714I$	$-5.06055 + 4.75413I$
$u = 0.010508 - 1.069030I$ $a = -0.600779 + 0.379610I$ $b = 0.115449 - 0.616202I$	$-3.79097 + 1.46714I$	$-5.06055 - 4.75413I$
$u = 0.734341 + 0.797765I$ $a = 1.257320 - 0.172643I$ $b = 0.228017 + 1.091210I$	$2.81865 - 0.76966I$	$-3.02229 + 2.23661I$
$u = 0.734341 - 0.797765I$ $a = 1.257320 + 0.172643I$ $b = 0.228017 - 1.091210I$	$2.81865 + 0.76966I$	$-3.02229 - 2.23661I$
$u = 1.074650 + 0.168126I$ $a = -0.355808 + 0.706778I$ $b = 0.039591 - 1.309980I$	$-1.79599 - 3.76105I$	$-4.80263 + 8.00937I$
$u = 1.074650 - 0.168126I$ $a = -0.355808 - 0.706778I$ $b = 0.039591 + 1.309980I$	$-1.79599 + 3.76105I$	$-4.80263 - 8.00937I$
$u = -0.745967 + 0.945276I$ $a = -1.129930 - 0.091852I$ $b = -0.012396 + 1.135900I$	$6.07946 - 3.67877I$	$-0.12041 + 2.47120I$
$u = -0.745967 - 0.945276I$ $a = -1.129930 + 0.091852I$ $b = -0.012396 - 1.135900I$	$6.07946 + 3.67877I$	$-0.12041 - 2.47120I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.021750 + 0.716695I$ $a = -0.081674 + 1.052890I$ $b = -0.92093 - 2.01835I$	$1.91220 - 4.97774I$	$-4.59322 + 4.08967I$
$u = 1.021750 - 0.716695I$ $a = -0.081674 - 1.052890I$ $b = -0.92093 + 2.01835I$	$1.91220 + 4.97774I$	$-4.59322 - 4.08967I$
$u = 0.755105 + 1.061790I$ $a = 1.036650 - 0.033748I$ $b = -0.151747 + 1.120760I$	$1.48699 + 8.04356I$	$-4.72322 - 5.24092I$
$u = 0.755105 - 1.061790I$ $a = 1.036650 + 0.033748I$ $b = -0.151747 - 1.120760I$	$1.48699 - 8.04356I$	$-4.72322 + 5.24092I$
$u = -1.062230 + 0.805325I$ $a = -0.007950 + 1.055910I$ $b = 1.20574 - 1.93593I$	$5.07466 + 10.13450I$	$-2.10298 - 6.96057I$
$u = -1.062230 - 0.805325I$ $a = -0.007950 - 1.055910I$ $b = 1.20574 + 1.93593I$	$5.07466 - 10.13450I$	$-2.10298 + 6.96057I$
$u = 1.279790 + 0.462764I$ $a = -0.302749 - 0.444518I$ $b = 0.042614 + 0.739956I$	$-7.94739 - 3.73170I$	$-5.56768 - 0.86519I$
$u = 1.279790 - 0.462764I$ $a = -0.302749 + 0.444518I$ $b = 0.042614 - 0.739956I$	$-7.94739 + 3.73170I$	$-5.56768 + 0.86519I$
$u = 0.175064 + 0.597925I$ $a = 0.812678 - 0.972268I$ $b = 0.082343 + 0.525293I$	$1.28130 + 0.88301I$	$4.68220 - 2.63665I$
$u = 0.175064 - 0.597925I$ $a = 0.812678 + 0.972268I$ $b = 0.082343 - 0.525293I$	$1.28130 - 0.88301I$	$4.68220 + 2.63665I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.355470 + 0.349551I$ $a = \quad 0.160592 + 0.704597I$ $b = \quad 0.398277 - 1.175870I$	$-8.58893 + 6.63218I$	$-8.67236 - 8.09999I$
$u = -1.355470 - 0.349551I$ $a = \quad 0.160592 - 0.704597I$ $b = \quad 0.398277 + 1.175870I$	$-8.58893 - 6.63218I$	$-8.67236 + 8.09999I$
$u = \quad 1.109820 + 0.856025I$ $a = \quad 0.068276 + 1.033520I$ $b = -1.36937 - 1.78727I$	$0.3265 - 14.9979I$	$-5.89395 + 8.70861I$
$u = \quad 1.109820 - 0.856025I$ $a = \quad 0.068276 - 1.033520I$ $b = -1.36937 + 1.78727I$	$0.3265 + 14.9979I$	$-5.89395 - 8.70861I$
$u = -0.541106$ $a = -2.33904$ $b = -0.621412$	-0.468550	-16.1730
$u = -0.488142$ $a = \quad 0.570097$ $b = -0.728748$	-1.21370	-9.51190

II.

$$\boldsymbol{I_2^u = \langle u^{13} + u^{12} + \cdots + a + 1,\ u^{13} + 2u^{12} + \cdots + a^2 + 3,\ u^{14} + u^{13} + \cdots + u - 1\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} a \\ -u^{13} - u^{12} + \cdots - a - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{13} + u^{12} + \cdots + 2u + 1 \\ -u^{13} - u^{12} + \cdots + a - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 + u \\ u^7 - u^5 + 2u^3 - u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{13} + u^{12} + \cdots + 2u + 1 \\ -u^{13} - u^{12} + \cdots + a - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^7 - 2u^3 \\ -u^9 + u^7 - 3u^5 + 2u^3 - u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a \\ -u^{13} - u^{12} + \cdots - a - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{11} + 2u^9 - 4u^7 + 6u^5 - 3u^3 + 2u \\ u^{11} - u^9 + 4u^7 - 3u^5 + 3u^3 - u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -4u^{12} - 4u^{11} + 4u^{10} + 8u^9 - 16u^8 - 16u^7 + 12u^6 + 20u^5 - 16u^4 - 12u^3 + 8u^2 - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28}+11u^{27}+\cdots+2888u+289$
c_2,c_3,c_5 c_6,c_7	$u^{28}+3u^{27}+\cdots+74u+17$
c_4,c_{10}	$(u^{14}+u^{13}+\cdots+u-1)^2$
c_8,c_9,c_{12}	$(u^{14}-u^{13}+\cdots-3u-1)^2$
c_{11}	$(u^{14}+3u^{13}+\cdots+5u+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} + 11y^{27} + \cdots + 1428812y + 83521$
c_2, c_3, c_5 c_6, c_7	$y^{28} + 11y^{27} + \cdots + 2888y + 289$
c_4, c_{10}	$(y^{14} - 3y^{13} + \cdots - 5y + 1)^2$
c_8, c_9, c_{12}	$(y^{14} - 11y^{13} + \cdots - 5y + 1)^2$
c_{11}	$(y^{14} + 17y^{13} + \cdots - y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.919323 + 0.470231I$ $a = -0.404207 + 0.774825I$ $b = -1.380120 - 0.199773I$	$-6.26948 - 4.88256I$	$-7.68599 + 6.44337I$
$u = 0.919323 + 0.470231I$ $a = -0.515117 - 1.245060I$ $b = 0.407942 + 0.463734I$	$-6.26948 - 4.88256I$	$-7.68599 + 6.44337I$
$u = 0.919323 - 0.470231I$ $a = -0.404207 - 0.774825I$ $b = -1.380120 + 0.199773I$	$-6.26948 + 4.88256I$	$-7.68599 - 6.44337I$
$u = 0.919323 - 0.470231I$ $a = -0.515117 + 1.245060I$ $b = 0.407942 - 0.463734I$	$-6.26948 + 4.88256I$	$-7.68599 - 6.44337I$
$u = -0.924961$ $a = 0.46248 + 1.34555I$ $b = 1.014320 - 0.194361I$	-8.84982	-12.7050
$u = -0.924961$ $a = 0.46248 - 1.34555I$ $b = 1.014320 + 0.194361I$	-8.84982	-12.7050
$u = -0.726911 + 0.518054I$ $a = 0.725706 - 1.116820I$ $b = -0.465841 + 0.930039I$	$-1.93761 + 1.98638I$	$-0.65592 - 5.08636I$
$u = -0.726911 + 0.518054I$ $a = 0.001206 + 0.598768I$ $b = 1.362390 + 0.206201I$	$-1.93761 + 1.98638I$	$-0.65592 - 5.08636I$
$u = -0.726911 - 0.518054I$ $a = 0.725706 + 1.116820I$ $b = -0.465841 - 0.930039I$	$-1.93761 - 1.98638I$	$-0.65592 + 5.08636I$
$u = -0.726911 - 0.518054I$ $a = 0.001206 - 0.598768I$ $b = 1.362390 - 0.206201I$	$-1.93761 - 1.98638I$	$-0.65592 + 5.08636I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.879333 + 0.897049I$ $a = 0.981434 + 0.058694I$ $b = -0.362451 - 1.040360I$	$2.51115 - 1.51934I$	$-3.12222 + 0.64840I$
$u = -0.879333 + 0.897049I$ $a = -0.102101 - 0.955743I$ $b = -0.84520 + 1.71540I$	$2.51115 - 1.51934I$	$-3.12222 + 0.64840I$
$u = -0.879333 - 0.897049I$ $a = 0.981434 - 0.058694I$ $b = -0.362451 + 1.040360I$	$2.51115 + 1.51934I$	$-3.12222 - 0.64840I$
$u = -0.879333 - 0.897049I$ $a = -0.102101 + 0.955743I$ $b = -0.84520 - 1.71540I$	$2.51115 + 1.51934I$	$-3.12222 - 0.64840I$
$u = 0.405736 + 0.602281I$ $a = 0.914419 + 0.321246I$ $b = -2.02195 + 1.20408I$	$-4.70274 + 0.85224I$	$-3.59802 - 0.38712I$
$u = 0.405736 + 0.602281I$ $a = -1.32016 - 0.92353I$ $b = 1.26370 + 1.60335I$	$-4.70274 + 0.85224I$	$-3.59802 - 0.38712I$
$u = 0.405736 - 0.602281I$ $a = 0.914419 - 0.321246I$ $b = -2.02195 - 1.20408I$	$-4.70274 - 0.85224I$	$-3.59802 + 0.38712I$
$u = 0.405736 - 0.602281I$ $a = -1.32016 + 0.92353I$ $b = 1.26370 - 1.60335I$	$-4.70274 - 0.85224I$	$-3.59802 + 0.38712I$
$u = 0.924969 + 0.883501I$ $a = -0.980532 + 0.152079I$ $b = 0.093102 - 1.203290I$	$6.36134 - 3.26499I$	$0.09314 + 2.49004I$
$u = 0.924969 + 0.883501I$ $a = 0.055563 - 1.035580I$ $b = 1.07584 + 1.58872I$	$6.36134 - 3.26499I$	$0.09314 + 2.49004I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.924969 - 0.883501I$ $a = -0.980532 - 0.152079I$ $b = 0.093102 + 1.203290I$	$6.36134 + 3.26499I$	$0.09314 - 2.49004I$
$u = 0.924969 - 0.883501I$ $a = 0.055563 + 1.035580I$ $b = 1.07584 - 1.58872I$	$6.36134 + 3.26499I$	$0.09314 - 2.49004I$
$u = -0.961925 + 0.860252I$ $a = 0.966136 + 0.234062I$ $b = 0.177845 - 1.273080I$	$2.24783 + 8.01486I$	$-3.63204 - 5.37427I$
$u = -0.961925 + 0.860252I$ $a = -0.004211 - 1.094310I$ $b = -1.23004 + 1.41511I$	$2.24783 + 8.01486I$	$-3.63204 - 5.37427I$
$u = -0.961925 - 0.860252I$ $a = 0.966136 - 0.234062I$ $b = 0.177845 + 1.273080I$	$2.24783 - 8.01486I$	$-3.63204 + 5.37427I$
$u = -0.961925 - 0.860252I$ $a = -0.004211 + 1.094310I$ $b = -1.23004 - 1.41511I$	$2.24783 - 8.01486I$	$-3.63204 + 5.37427I$
$u = 0.561243$ $a = -0.28062 + 1.84686I$ $b = -1.58953 - 1.26511I$	-4.02051	-10.0930
$u = 0.561243$ $a = -0.28062 - 1.84686I$ $b = -1.58953 + 1.26511I$	-4.02051	-10.0930

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^8-8u^6+8u^4+4u^2-12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.822375 + 0.339110I$ $a = 0.428550 - 1.039280I$ $b = 0.61073 + 1.46782I$	$-3.61897 + 1.53058I$	$-8.51511 - 4.43065I$
$u = -0.822375 - 0.339110I$ $a = 0.428550 + 1.039280I$ $b = 0.61073 - 1.46782I$	$-3.61897 - 1.53058I$	$-8.51511 + 4.43065I$
$u = 0.822375 + 0.339110I$ $a = 0.428550 + 1.039280I$ $b = -1.46782 - 0.61073I$	$-3.61897 - 1.53058I$	$-8.51511 + 4.43065I$
$u = 0.822375 - 0.339110I$ $a = 0.428550 - 1.039280I$ $b = -1.46782 + 0.61073I$	$-3.61897 + 1.53058I$	$-8.51511 - 4.43065I$
$u = 0.766826I$ $a = -1.30408$ $b = 1.30408 + 1.30408I$	-5.69095	-9.48110
$u = -0.766826I$ $a = -1.30408$ $b = 1.30408 - 1.30408I$	-5.69095	-9.48110
$u = -1.200150 + 0.455697I$ $a = -0.276511 + 0.728237I$ $b = 1.004750 - 0.451726I$	$-9.16243 + 4.40083I$	$-12.74431 - 3.49859I$
$u = -1.200150 - 0.455697I$ $a = -0.276511 - 0.728237I$ $b = 1.004750 + 0.451726I$	$-9.16243 - 4.40083I$	$-12.74431 + 3.49859I$
$u = 1.200150 + 0.455697I$ $a = -0.276511 - 0.728237I$ $b = -0.451726 + 1.004750I$	$-9.16243 - 4.40083I$	$-12.74431 + 3.49859I$
$u = 1.200150 - 0.455697I$ $a = -0.276511 + 0.728237I$ $b = -0.451726 - 1.004750I$	$-9.16243 + 4.40083I$	$-12.74431 - 3.49859I$

IV. $I_1^v = \langle a,\ 2b+1,\ v-2 \rangle$

(i) Arc colorings

$a_4 = \begin{pmatrix} 2 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_5 = \begin{pmatrix} 2 \\ 0 \end{pmatrix}$

$a_7 = \begin{pmatrix} 0 \\ -0.5 \end{pmatrix}$

$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_3 = \begin{pmatrix} 2 \\ 0.5 \end{pmatrix}$

$a_8 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$

$a_2 = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$

$a_1 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$

$a_6 = \begin{pmatrix} 2 \\ -0.5 \end{pmatrix}$

$a_9 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2.25$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 2.00000$ $a = 0$ $b = -0.500000$	0	2.25000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^{10})(u+1)(u^{26}+5u^{25}+\cdots-5u+1)$ $\cdot(u^{28}+11u^{27}+\cdots+2888u+289)$
c_2, c_3	$(u+1)(u^2+1)^5(u^{26}-u^{25}+\cdots-3u-1)(u^{28}+3u^{27}+\cdots+74u+17)$
c_4, c_{10}	$u(u^{10}-3u^8+\cdots-u^2+1)(u^{14}+u^{13}+\cdots+u-1)^2$ $\cdot(u^{26}-3u^{25}+\cdots+6u+8)$
c_5, c_6, c_7	$(u-1)(u^2+1)^5(u^{26}-u^{25}+\cdots-3u-1)(u^{28}+3u^{27}+\cdots+74u+17)$
c_8, c_9	$(u-1)(u^5+u^4+\cdots+u-1)^2(u^{14}-u^{13}+\cdots-3u-1)^2$ $\cdot(u^{26}-2u^{25}+\cdots+7u-4)$
c_{11}	$u(u^5+3u^4+\cdots-u-1)^2(u^{14}+3u^{13}+\cdots+5u+1)^2$ $\cdot(u^{26}+9u^{25}+\cdots+436u+64)$
c_{12}	$(u+1)(u^5-u^4+\cdots+u+1)^2(u^{14}-u^{13}+\cdots-3u-1)^2$ $\cdot(u^{26}-2u^{25}+\cdots+7u-4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^{11})(y^{26}+37y^{25}+\cdots-157y+1)$ $\cdot(y^{28}+11y^{27}+\cdots+1428812y+83521)$
c_2, c_3, c_5 c_6, c_7	$(y-1)(y+1)^{10}(y^{26}+5y^{25}+\cdots-5y+1)$ $\cdot(y^{28}+11y^{27}+\cdots+2888y+289)$
c_4, c_{10}	$y(y^5-3y^4+\cdots-y+1)^2(y^{14}-3y^{13}+\cdots-5y+1)^2$ $\cdot(y^{26}-9y^{25}+\cdots-436y+64)$
c_8, c_9, c_{12}	$(y-1)(y^5-5y^4+\cdots-y-1)^2(y^{14}-11y^{13}+\cdots-5y+1)^2$ $\cdot(y^{26}-22y^{25}+\cdots-65y+16)$
c_{11}	$y(y^5-y^4+\cdots+3y-1)^2(y^{14}+17y^{13}+\cdots-y+1)^2$ $\cdot(y^{26}+15y^{25}+\cdots-142352y+4096)$