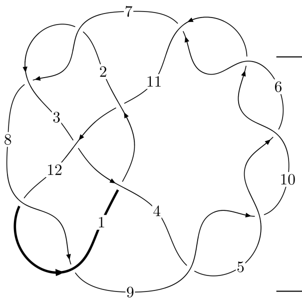
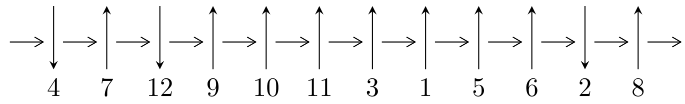
$12a_{1114}$ ($K12a_{1114}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle 49u^{21} - 206u^{20} + \cdots + 2b - 110,\ -13u^{21} + 48u^{20} + \cdots + 4a + 12,\ u^{22} - 6u^{21} + \cdots - 14u + 4\rangle \\
I^u_2 &= \langle -17691u^8a^3 + 8540u^8a^2 + \cdots + 277099a - 169388,\ -2u^8a^3 - 4u^8a^2 + \cdots - 12a + 70, \\
&\quad u^9 + u^8 - 6u^7 - 5u^6 + 11u^5 + 7u^4 - 6u^3 - 4u^2 - u + 1\rangle \\
I^u_3 &= \langle u^4 - 3u^2 + b + 1,\ u^7 - 6u^5 - u^4 + 11u^3 + 3u^2 + a - 6u - 1, \\
&\quad u^{11} - u^{10} - 8u^9 + 7u^8 + 23u^7 - 16u^6 - 29u^5 + 13u^4 + 15u^3 - 2u^2 - u - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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. $\boldsymbol{I_1^u = \langle 49u^{21} - 206u^{20} + \cdots + 2b - 110,\ -13u^{21} + 48u^{20} + \cdots + 4a + 12,\ u^{22} - 6u^{21} + \cdots - 14u + 4\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3 + 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{13}{4}u^{21} - 12u^{20} + \cdots + \frac{51}{4}u - 3 \\ -\frac{49}{2}u^{21} + 103u^{20} + \cdots - \frac{323}{2}u + 55 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} \frac{265}{4}u^{21} - 281u^{20} + \cdots + \frac{1755}{4}u - 149 \\ -\frac{175}{2}u^{21} + 372u^{20} + \cdots - \frac{1175}{2}u + 201 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{2}u^{21} - \frac{1}{2}u^{20} + \cdots - \frac{5}{2}u + \frac{3}{2} \\ -\frac{17}{2}u^{21} + 35u^{20} + \cdots - \frac{109}{2}u + 18 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 19u^{21} - \frac{163}{2}u^{20} + \cdots + 127u - \frac{85}{2} \\ -\frac{45}{2}u^{21} + 97u^{20} + \cdots - \frac{313}{2}u + 54 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{49}{4}u^{21} - 54u^{20} + \cdots + \frac{339}{4}u - 29 \\ -\frac{23}{2}u^{21} + 52u^{20} + \cdots - \frac{175}{2}u + 31 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -42u^{21} + 180u^{20} + 180u^{19} - 1614u^{18} + 357u^{17} + 6114u^{16} - 4208u^{15} - 12099u^{14} + 13221u^{13} + 11109u^{12} - 22235u^{11} + 1566u^{10} + 20908u^9 - 13794u^8 - 7898u^7 + 12460u^6 - 2905u^5 - 4228u^4 + 2792u^3 + 18u^2 - 316u + 106$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{22} + 2u^{21} + \cdots - 12u + 1$
c_2, c_7, c_8 c_{12}	$u^{22} + u^{21} + \cdots - 2u + 1$
c_3	$u^{22} + 21u^{21} + \cdots + 2816u + 512$
c_4, c_5, c_6 c_9, c_{10}	$u^{22} + 6u^{21} + \cdots + 14u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{22} + 14y^{21} + \cdots - 162y + 1$
c_2, c_7, c_8 c_{12}	$y^{22} - 21y^{21} + \cdots - 10y + 1$
c_3	$y^{22} - y^{21} + \cdots - 7405568y + 262144$
c_4, c_5, c_6 c_9, c_{10}	$y^{22} - 30y^{21} + \cdots - 140y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.043890 + 0.084239I$ $a = -0.396837 - 0.057037I$ $b = 0.016671 - 0.768015I$	$2.64990 - 1.99958I$	$9.53146 + 3.76378I$
$u = -1.043890 - 0.084239I$ $a = -0.396837 + 0.057037I$ $b = 0.016671 + 0.768015I$	$2.64990 + 1.99958I$	$9.53146 - 3.76378I$
$u = 0.319390 + 0.784311I$ $a = 0.105537 - 0.519872I$ $b = -1.332750 + 0.209642I$	$6.57558 - 3.17716I$	$14.5871 + 2.3802I$
$u = 0.319390 - 0.784311I$ $a = 0.105537 + 0.519872I$ $b = -1.332750 - 0.209642I$	$6.57558 + 3.17716I$	$14.5871 - 2.3802I$
$u = 0.495362 + 0.681217I$ $a = -0.623279 + 1.001900I$ $b = 1.38604 + 0.33811I$	$7.16423 + 7.89598I$	$13.0600 - 7.3152I$
$u = 0.495362 - 0.681217I$ $a = -0.623279 - 1.001900I$ $b = 1.38604 - 0.33811I$	$7.16423 - 7.89598I$	$13.0600 + 7.3152I$
$u = -1.220570 + 0.357902I$ $a = 1.81374 + 0.84055I$ $b = -1.48578 + 0.42742I$	$12.5903 - 11.4735I$	$15.1438 + 6.9415I$
$u = -1.220570 - 0.357902I$ $a = 1.81374 - 0.84055I$ $b = -1.48578 - 0.42742I$	$12.5903 + 11.4735I$	$15.1438 - 6.9415I$
$u = -1.193250 + 0.493321I$ $a = -1.23495 - 0.92705I$ $b = 1.339160 + 0.061996I$	$11.24460 - 1.24294I$	$18.1099 + 1.8376I$
$u = -1.193250 - 0.493321I$ $a = -1.23495 + 0.92705I$ $b = 1.339160 - 0.061996I$	$11.24460 + 1.24294I$	$18.1099 - 1.8376I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.687446$ $a = 2.18879$ $b = -0.499542$	-0.430924	21.8170
$u = 1.48411$ $a = -0.786366$ $b = 0.649714$	6.96114	19.0070
$u = -0.411824$ $a = 0.523537$ $b = -0.318922$	0.605966	16.6960
$u = -1.58824$ $a = -1.60194$ $b = 0.874121$	7.51930	14.0920
$u = 0.227373 + 0.272091I$ $a = 0.53987 - 1.57107I$ $b = 0.082959 - 0.502394I$	$-1.28640 + 0.84268I$	$-1.69920 - 4.23368I$
$u = 0.227373 - 0.272091I$ $a = 0.53987 + 1.57107I$ $b = 0.082959 + 0.502394I$	$-1.28640 - 0.84268I$	$-1.69920 + 4.23368I$
$u = 1.74549 + 0.01514I$ $a = 0.268462 + 0.256545I$ $b = -0.047072 - 0.943997I$	$12.75810 + 2.36846I$	$10.71272 - 2.85205I$
$u = 1.74549 - 0.01514I$ $a = 0.268462 - 0.256545I$ $b = -0.047072 + 0.943997I$	$12.75810 - 2.36846I$	$10.71272 + 2.85205I$
$u = 1.78669 + 0.09389I$ $a = -2.11796 + 0.46248I$ $b = 1.56385 + 0.48092I$	$-16.0394 + 13.4812I$	$15.5774 - 5.8403I$
$u = 1.78669 - 0.09389I$ $a = -2.11796 - 0.46248I$ $b = 1.56385 - 0.48092I$	$-16.0394 - 13.4812I$	$15.5774 + 5.8403I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.79765 + 0.12560I$ $a = 1.73341 - 0.61996I$ $b = -1.375760 - 0.072217I$	$-17.4882 + 3.9741I$	$17.1708 - 2.2051I$
$u = 1.79765 - 0.12560I$ $a = 1.73341 + 0.61996I$ $b = -1.375760 + 0.072217I$	$-17.4882 - 3.9741I$	$17.1708 + 2.2051I$

II. $I_2^u = \langle -1.77\times10^4 a^3u^8 + 8540a^2u^8 + \cdots + 2.77\times10^5 a - 1.69\times 10^5,\ -2u^8a^3 - 4u^8a^2 + \cdots - 12a + 70,\ u^9 + u^8 + \cdots - u + 1\rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^3 + 2u \\ u^5 - 3u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} a \\ 0.0802571a^3u^8 - 0.0387426a^2u^8 + \cdots - 1.25709a + 0.768447 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.709439a^3u^8 + 0.329072a^2u^8 + \cdots + 2.30427a - 1.91298 \\ 0.789696a^3u^8 - 0.367815a^2u^8 + \cdots - 2.56136a + 2.68143 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.307278a^3u^8 + 0.496604a^2u^8 + \cdots - 0.507896a - 2.73403 \\ 0.428369a^3u^8 + 0.0229598a^2u^8 + \cdots + 0.390062a + 3.89304 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.229521a^3u^8 - 0.705855a^2u^8 + \cdots + 0.724728a + 3.72904 \\ -0.441407a^3u^8 + 2.28443a^2u^8 + \cdots - 3.25779a - 5.21324 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.946141a^3u^8 - 0.800857a^2u^8 + \cdots + 1.80509a - 3.49748 \\ 1.15803a^3u^8 - 0.777715a^2u^8 + \cdots + 0.727971a + 3.98169 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{31188}{20039}u^8a^3 - \frac{18668}{20039}u^8a^2 + \cdots + \frac{7244}{20039}a + \frac{311386}{20039}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{36} - 11u^{35} + \cdots - 22476u + 2977$
c_2, c_7, c_8 c_{12}	$u^{36} - u^{35} + \cdots - 12u + 1$
c_3	$(u^2 - u + 1)^{18}$
c_4, c_5, c_6 c_9, c_{10}	$(u^9 - u^8 - 6u^7 + 5u^6 + 11u^5 - 7u^4 - 6u^3 + 4u^2 - u - 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{36} + 19y^{35} + \cdots + 113199956y + 8862529$
c_2, c_7, c_8 c_{12}	$y^{36} - 33y^{35} + \cdots + 13206y^2 + 1$
c_3	$(y^2 + y + 1)^{18}$
c_4, c_5, c_6 c_9, c_{10}	$(y^9 - 13y^8 + 68y^7 - 183y^6 + 269y^5 - 211y^4 + 80y^3 - 18y^2 + 9y - 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.115700 + 0.218357I$ $a = -0.583676 - 0.658151I$ $b = -0.0692851 + 0.0614982I$	$6.69287 + 1.83365I$	$14.03791 - 0.54536I$
$u = 1.115700 + 0.218357I$ $a = -0.648434 - 0.438924I$ $b = 0.381836 + 1.212390I$	$6.69287 + 5.89342I$	$14.0379 - 7.4736I$
$u = 1.115700 + 0.218357I$ $a = -1.48443 + 0.60451I$ $b = 1.294760 + 0.266822I$	$6.69287 + 1.83365I$	$14.03791 - 0.54536I$
$u = 1.115700 + 0.218357I$ $a = 1.72894 - 1.32529I$ $b = -1.278910 - 0.315259I$	$6.69287 + 5.89342I$	$14.0379 - 7.4736I$
$u = 1.115700 - 0.218357I$ $a = -0.583676 + 0.658151I$ $b = -0.0692851 - 0.0614982I$	$6.69287 - 1.83365I$	$14.03791 + 0.54536I$
$u = 1.115700 - 0.218357I$ $a = -0.648434 + 0.438924I$ $b = 0.381836 - 1.212390I$	$6.69287 - 5.89342I$	$14.0379 + 7.4736I$
$u = 1.115700 - 0.218357I$ $a = -1.48443 - 0.60451I$ $b = 1.294760 - 0.266822I$	$6.69287 - 1.83365I$	$14.03791 + 0.54536I$
$u = 1.115700 - 0.218357I$ $a = 1.72894 + 1.32529I$ $b = -1.278910 + 0.315259I$	$6.69287 - 5.89342I$	$14.0379 + 7.4736I$
$u = -1.15527$ $a = -2.01543 + 0.07577I$ $b = 1.63501 + 0.66222I$	$10.43600 + 2.02988I$	$18.5753 - 3.4641I$
$u = -1.15527$ $a = -2.01543 - 0.07577I$ $b = 1.63501 - 0.66222I$	$10.43600 - 2.02988I$	$18.5753 + 3.4641I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.15527$ $a=\ \ 2.74857+1.19407I$ $b=-1.263110-0.018083I$	$10.43600+2.02988I$	$18.5753-3.4641I$
$u=-1.15527$ $a=\ \ 2.74857-1.19407I$ $b=-1.263110+0.018083I$	$10.43600-2.02988I$	$18.5753+3.4641I$
$u=-0.344156+0.466288I$ $a=-0.231060+0.764559I$ $b=-1.169060-0.018719I$	$2.08691+0.47566I$	$8.94040+0.84117I$
$u=-0.344156+0.466288I$ $a=\ \ 1.310650-0.167710I$ $b=\ \ 0.082806+0.524016I$	$2.08691+0.47566I$	$8.94040+0.84117I$
$u=-0.344156+0.466288I$ $a=\ \ 0.032067+0.569438I$ $b=-0.222763+0.891266I$	$2.08691-3.58411I$	$8.94040+7.76937I$
$u=-0.344156+0.466288I$ $a=-0.05497-1.80281I$ $b=\ \ 1.203490-0.203190I$	$2.08691-3.58411I$	$8.94040+7.76937I$
$u=-0.344156-0.466288I$ $a=-0.231060-0.764559I$ $b=-1.169060+0.018719I$	$2.08691-0.47566I$	$8.94040-0.84117I$
$u=-0.344156-0.466288I$ $a=\ \ 1.310650+0.167710I$ $b=\ \ 0.082806-0.524016I$	$2.08691-0.47566I$	$8.94040-0.84117I$
$u=-0.344156-0.466288I$ $a=\ \ 0.032067-0.569438I$ $b=-0.222763-0.891266I$	$2.08691+3.58411I$	$8.94040-7.76937I$
$u=-0.344156-0.466288I$ $a=-0.05497+1.80281I$ $b=\ \ 1.203490+0.203190I$	$2.08691+3.58411I$	$8.94040-7.76937I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.362481$ $a = 1.11687+1.72823I$ $b = -1.38930+0.48183I$	$5.49604-2.02988I$	$19.6128+3.4641I$
$u = 0.362481$ $a = 1.11687-1.72823I$ $b = -1.38930-0.48183I$	$5.49604+2.02988I$	$19.6128-3.4641I$
$u = 0.362481$ $a = -3.85979+3.02264I$ $b = 1.225600-0.198299I$	$5.49604-2.02988I$	$19.6128+3.4641I$
$u = 0.362481$ $a = -3.85979-3.02264I$ $b = 1.225600+0.198299I$	$5.49604+2.02988I$	$19.6128-3.4641I$
$u = -1.76115+0.05266I$ $a = 0.634605-0.837704I$ $b = -0.43558+1.42750I$	$17.1037-7.0247I$	$14.8663+6.3722I$
$u = -1.76115+0.05266I$ $a = 0.263385-0.472901I$ $b = 0.086713-0.200842I$	$17.1037-2.9650I$	$14.8663-0.5560I$
$u = -1.76115+0.05266I$ $a = 1.82935+0.17038I$ $b = -1.43895+0.44937I$	$17.1037-2.9650I$	$14.8663-0.5560I$
$u = -1.76115+0.05266I$ $a = -1.94297-0.82339I$ $b = 1.326930-0.380702I$	$17.1037-7.0247I$	$14.8663+6.3722I$
$u = -1.76115-0.05266I$ $a = 0.634605+0.837704I$ $b = -0.43558-1.42750I$	$17.1037+7.0247I$	$14.8663-6.3722I$
$u = -1.76115-0.05266I$ $a = 0.263385+0.472901I$ $b = 0.086713+0.200842I$	$17.1037+2.9650I$	$14.8663+0.5560I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.76115 - 0.05266I$ $a = 1.82935 - 0.17038I$ $b = -1.43895 - 0.44937I$	$17.1037 + 2.9650I$	$14.8663 + 0.5560I$
$u = -1.76115 - 0.05266I$ $a = -1.94297 + 0.82339I$ $b = 1.326930 + 0.380702I$	$17.1037 + 7.0247I$	$14.8663 - 6.3722I$
$u = 1.77199$ $a = 2.19492 + 0.22581I$ $b = -1.78129 - 0.74916I$	$-18.3509 + 2.0299I$	$18.1228 - 3.4641I$
$u = 1.77199$ $a = 2.19492 - 0.22581I$ $b = -1.78129 + 0.74916I$	$-18.3509 - 2.0299I$	$18.1228 + 3.4641I$
$u = 1.77199$ $a = -2.53859 + 0.82107I$ $b = 1.311100 + 0.065235I$	$-18.3509 - 2.0299I$	$18.1228 + 3.4641I$
$u = 1.77199$ $a = -2.53859 - 0.82107I$ $b = 1.311100 - 0.065235I$	$-18.3509 + 2.0299I$	$18.1228 - 3.4641I$

III.

$\boldsymbol{I_3^u = \langle u^4-3u^2+b+1,\ u^7-6u^5-u^4+11u^3+3u^2+a-6u-1,\ u^{11}-u^{10}+\cdots-u-1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2+1 \\ u^4-2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3+2u \\ u^5-3u^3+u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^7+6u^5+u^4-11u^3-3u^2+6u+1 \\ -u^4+3u^2-1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^9-7u^7+17u^5+u^4-17u^3-3u^2+6u+1 \\ -u^9+6u^7-11u^5-u^4+6u^3+3u^2-1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{10}-u^9-8u^8+7u^7+22u^6-16u^5-24u^4+14u^3+8u^2-5u+1 \\ u^8-6u^6+11u^4-6u^2+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^9+7u^7-16u^5+13u^3-u^2-2u+2 \\ u^9-7u^7+16u^5+u^4-13u^3-3u^2+2u+1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^9-8u^7+22u^5+u^4-24u^3-3u^2+8u+1 \\ -u^4+3u^2+u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -4u^{10}+2u^9+31u^8-14u^7-82u^6+27u^5+84u^4-6u^3-23u^2-10u+5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{11} + 2y^{10} - 5y^9 - 12y^8 + 3y^7 + 14y^6 + y^5 - 5y^4 - 2y^3 + y^2 + 2y - 1$
c_2, c_7, c_8 c_{12}	$y^{11} - 13y^{10} + \cdots + 38y - 1$
c_3	$y^{11} - 2y^{10} - y^9 + 2y^8 + 5y^7 - y^6 - 14y^5 - 3y^4 + 12y^3 + 5y^2 - 2y - 1$
c_4, c_5, c_6 c_9, c_{10}	$y^{11} - 17y^{10} + \cdots - 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.003860 + 0.215654I$ $a = -0.834543 - 0.532608I$ $b = 1.147190 - 0.466546I$	$7.60023 - 3.64229I$	$16.7867 + 4.7032I$
$u = -1.003860 - 0.215654I$ $a = -0.834543 + 0.532608I$ $b = 1.147190 + 0.466546I$	$7.60023 + 3.64229I$	$16.7867 - 4.7032I$
$u = 1.288880 + 0.118905I$ $a = -1.87499 + 0.32616I$ $b = 1.322320 - 0.090164I$	$9.54739 - 0.09465I$	$15.9387 + 0.1893I$
$u = 1.288880 - 0.118905I$ $a = -1.87499 - 0.32616I$ $b = 1.322320 + 0.090164I$	$9.54739 + 0.09465I$	$15.9387 - 0.1893I$
$u = 0.550251$ $a = 1.93961$ $b = -0.183345$	-0.771716	-1.63370
$u = -1.53837$ $a = -0.987197$ $b = 0.499049$	6.40308	3.17420
$u = -0.146441 + 0.318421I$ $a = -0.12310 + 2.31687I$ $b = -1.237540 - 0.294692I$	$4.72595 + 1.79241I$	$7.60505 + 0.27412I$
$u = -0.146441 - 0.318421I$ $a = -0.12310 - 2.31687I$ $b = -1.237540 + 0.294692I$	$4.72595 - 1.79241I$	$7.60505 - 0.27412I$
$u = 1.74679 + 0.05665I$ $a = 1.167540 - 0.166105I$ $b = -1.107360 - 0.612780I$	$17.5808 + 4.7820I$	$16.4667 - 3.6309I$
$u = 1.74679 - 0.05665I$ $a = 1.167540 + 0.166105I$ $b = -1.107360 + 0.612780I$	$17.5808 - 4.7820I$	$16.4667 + 3.6309I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.78263$ $a = \quad 2.37775$ $b = -1.56492$	-18.7427	16.8650

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^{11}+2u^{10}+3u^9+4u^8+u^7-2u^6-5u^5-5u^4-2u^3+u^2+2u+1)$ $\cdot(u^{22}+2u^{21}+\cdots-12u+1)(u^{36}-11u^{35}+\cdots-22476u+2977)$
c_2, c_8	$(u^{11}+u^{10}+\cdots-4u-1)(u^{22}+u^{21}+\cdots-2u+1)$ $\cdot(u^{36}-u^{35}+\cdots-12u+1)$
c_3	$(u^2-u+1)^{18}$ $\cdot(u^{11}-2u^{10}+u^9+2u^8-5u^7+5u^6-2u^5-u^4+4u^3-3u^2+2u-1)$ $\cdot(u^{22}+21u^{21}+\cdots+2816u+512)$
c_4, c_5, c_6	$(u^9-u^8-6u^7+5u^6+11u^5-7u^4-6u^3+4u^2-u-1)^4$ $\cdot(u^{11}+u^{10}+\cdots-u+1)(u^{22}+6u^{21}+\cdots+14u+4)$
c_7, c_{12}	$(u^{11}-u^{10}+\cdots-4u+1)(u^{22}+u^{21}+\cdots-2u+1)$ $\cdot(u^{36}-u^{35}+\cdots-12u+1)$
c_9, c_{10}	$(u^9-u^8-6u^7+5u^6+11u^5-7u^4-6u^3+4u^2-u-1)^4$ $\cdot(u^{11}-u^{10}+\cdots-u-1)(u^{22}+6u^{21}+\cdots+14u+4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^{11}+2y^{10}-5y^9-12y^8+3y^7+14y^6+y^5-5y^4-2y^3+y^2+2y-1)$ $\cdot(y^{22}+14y^{21}+\cdots-162y+1)$ $\cdot(y^{36}+19y^{35}+\cdots+113199956y+8862529)$
c_2, c_7, c_8 c_{12}	$(y^{11}-13y^{10}+\cdots+38y-1)(y^{22}-21y^{21}+\cdots-10y+1)$ $\cdot(y^{36}-33y^{35}+\cdots+13206y^2+1)$
c_3	$(y^2+y+1)^{18}$ $\cdot(y^{11}-2y^{10}-y^9+2y^8+5y^7-y^6-14y^5-3y^4+12y^3+5y^2-2y-1)$ $\cdot(y^{22}-y^{21}+\cdots-7405568y+262144)$
c_4, c_5, c_6 c_9, c_{10}	$(y^9-13y^8+68y^7-183y^6+269y^5-211y^4+80y^3-18y^2+9y-1)^4$ $\cdot(y^{11}-17y^{10}+\cdots-3y-1)(y^{22}-30y^{21}+\cdots-140y+16)$