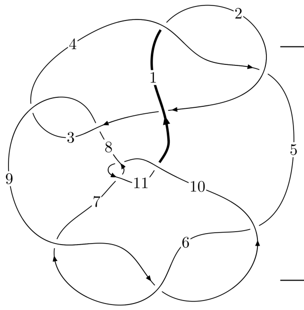
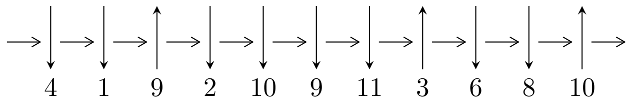
$11n_{66}$ $(K11n_{66})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle &4750254357724u^{19} + 14627504028936u^{18} + \cdots + 236335517083361b - 81147234294199, \\ &- 74233627976373u^{19} - 270771524553115u^{18} + \cdots + 378136827333776a + 1442548033804746, \\ &u^{20} + 3u^{19} + \cdots - 6u + 8\rangle \\ I_2^u = \langle &u^2a + b + 1,\ -2u^{10}a - 6u^{11} + \cdots + a - 2, \\ &u^{12} - u^{11} - u^{10} + 2u^9 + 3u^8 - 4u^7 - 2u^6 + 4u^5 + 2u^4 - 3u^3 - u^2 + 1\rangle \\ I_3^u = \langle &-u^5 + 2u^3 + b - u,\ -u^4 + 2u^3 + 3u^2 + a - 3u - 2,\ u^6 - 3u^4 + 2u^2 + 1\rangle \end{aligned}$$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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.

$\boldsymbol{I_1^u = \langle 4.75\times 10^{12}u^{19}+1.46\times 10^{13}u^{18}+\cdots+2.36\times 10^{13}b-8.11\times 10^{13},\ -7.42\times 10^{13}u^{19}-2.71\times 10^{14}u^{18}+\cdots+3.78\times 10^{14}a+1.44\times 10^{15},\ u^{20}+3u^{19}+\cdots-6u+8\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.196314u^{19}+0.716068u^{18}+\cdots-3.73611u-3.81488 \\ -0.200996u^{19}-0.618930u^{18}+\cdots+3.09511u+3.43356 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.00468201u^{19}+0.0971380u^{18}+\cdots-0.640997u-0.381323 \\ 0.238201u^{19}+0.712561u^{18}+\cdots-3.79968u-2.54409 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.196314u^{19}+0.716068u^{18}+\cdots-3.73611u-3.81488 \\ 0.107586u^{19}+0.364861u^{18}+\cdots-2.28735u-2.41656 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00468201u^{19}+0.0971380u^{18}+\cdots-0.640997u-0.381323 \\ -0.200996u^{19}-0.618930u^{18}+\cdots+3.09511u+3.43356 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0380706u^{19}+0.0221177u^{18}+\cdots-0.0686952u-0.889509 \\ -0.467904u^{19}-1.50365u^{18}+\cdots+8.10809u+6.85079 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0279992u^{19}+0.365360u^{18}+\cdots-2.48168u-2.62009 \\ -0.344443u^{19}-1.03168u^{18}+\cdots+5.35346u+6.28047 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.429833u^{19}-1.52577u^{18}+\cdots+8.17678u+7.74030 \\ -0.345787u^{19}-1.07742u^{18}+\cdots+6.08703u+4.96065 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.429833u^{19}-1.52577u^{18}+\cdots+8.17678u+7.74030 \\ -0.345787u^{19}-1.07742u^{18}+\cdots+6.08703u+4.96065 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -\frac{29166765795697}{27009773380984}u^{19} - \frac{107025259759479}{27009773380984}u^{18} + \cdots + \frac{889027178406181}{27009773380984}u + \frac{218402675148733}{13504886690492}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{20} - 2u^{19} + \cdots - 3u - 4$
c_2	$u^{20} + 10u^{19} + \cdots + 65u + 16$
c_3, c_8	$u^{20} - 3u^{19} + \cdots + 6u + 8$
c_5, c_6, c_7 c_9, c_{10}	$u^{20} + u^{19} + \cdots + u^2 - 1$
c_{11}	$u^{20} - 5u^{19} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{20} - 10y^{19} + \cdots - 65y + 16$
c_2	$y^{20} + 2y^{19} + \cdots + 3935y + 256$
c_3, c_8	$y^{20} - 9y^{19} + \cdots - 372y + 64$
c_5, c_6, c_7 c_9, c_{10}	$y^{20} + 5y^{19} + \cdots - 2y + 1$
c_{11}	$y^{20} + 21y^{19} + \cdots - 26y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.673179 + 0.716265I$ $a = -0.148792 + 0.308519I$ $b = 1.076780 - 0.752726I$	$-5.39578 - 0.84915I$	$-7.95749 + 2.97696I$
$u = -0.673179 - 0.716265I$ $a = -0.148792 - 0.308519I$ $b = 1.076780 + 0.752726I$	$-5.39578 + 0.84915I$	$-7.95749 - 2.97696I$
$u = 0.457611 + 1.029390I$ $a = -0.041132 - 0.464695I$ $b = 0.689086 + 0.818580I$	$-1.13732 - 2.28200I$	$-3.79248 + 2.52259I$
$u = 0.457611 - 1.029390I$ $a = -0.041132 + 0.464695I$ $b = 0.689086 - 0.818580I$	$-1.13732 + 2.28200I$	$-3.79248 - 2.52259I$
$u = -1.057230 + 0.616811I$ $a = -0.48847 + 1.97668I$ $b = -0.754597 - 0.948291I$	$-4.17399 - 4.33843I$	$-5.43818 + 4.87758I$
$u = -1.057230 - 0.616811I$ $a = -0.48847 - 1.97668I$ $b = -0.754597 + 0.948291I$	$-4.17399 + 4.33843I$	$-5.43818 - 4.87758I$
$u = -0.114291 + 0.713759I$ $a = 0.381764 - 0.379380I$ $b = 0.345961 + 0.369550I$	$-0.507859 - 1.098400I$	$-5.66835 + 6.51867I$
$u = -0.114291 - 0.713759I$ $a = 0.381764 + 0.379380I$ $b = 0.345961 - 0.369550I$	$-0.507859 + 1.098400I$	$-5.66835 - 6.51867I$
$u = -0.686172 + 1.114670I$ $a = -0.149939 + 0.505520I$ $b = 0.738092 - 1.033620I$	$-3.56378 + 7.37420I$	$-5.16607 - 5.93843I$
$u = -0.686172 - 1.114670I$ $a = -0.149939 - 0.505520I$ $b = 0.738092 + 1.033620I$	$-3.56378 - 7.37420I$	$-5.16607 + 5.93843I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.20041 + 0.74865I$ $a = -0.52942 - 1.65229I$ $b = -0.681127 + 1.119630I$	$1.09912 + 8.73296I$	$-0.91420 - 6.11492I$
$u = 1.20041 - 0.74865I$ $a = -0.52942 + 1.65229I$ $b = -0.681127 - 1.119630I$	$1.09912 - 8.73296I$	$-0.91420 + 6.11492I$
$u = -1.15925 + 0.84659I$ $a = -0.67085 + 1.58475I$ $b = -0.74872 - 1.20984I$	$-2.0375 - 14.4341I$	$-3.68264 + 8.80511I$
$u = -1.15925 - 0.84659I$ $a = -0.67085 - 1.58475I$ $b = -0.74872 + 1.20984I$	$-2.0375 + 14.4341I$	$-3.68264 - 8.80511I$
$u = -1.44359 + 0.25308I$ $a = 0.295484 - 1.320210I$ $b = -0.242677 + 0.771774I$	$5.28190 - 1.85243I$	$-3.45872 - 2.75624I$
$u = -1.44359 - 0.25308I$ $a = 0.295484 + 1.320210I$ $b = -0.242677 - 0.771774I$	$5.28190 + 1.85243I$	$-3.45872 + 2.75624I$
$u = 0.527412$ $a = 2.13544$ $b = -0.362131$	-2.14785	-2.01910
$u = 1.47329 + 0.10154I$ $a = 0.14365 - 1.48101I$ $b = -0.346734 + 0.845969I$	$5.55307 + 4.39884I$	$-1.65086 - 8.29154I$
$u = 1.47329 - 0.10154I$ $a = 0.14365 + 1.48101I$ $b = -0.346734 - 0.845969I$	$5.55307 - 4.39884I$	$-1.65086 + 8.29154I$
$u = 0.477398$ $a = -0.0950270$ $b = 1.21001$	-2.89220	7.72710

II. $\boldsymbol{I_2^u = \langle u^2a + b + 1,\ -2u^{10}a - 6u^{11} + \cdots + a - 2,\ u^{12} - u^{11} + \cdots - u^2 + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^{12} - u^{11} + \cdots - 2u + 1)^2$
c_2	$(u^{12} + 7u^{11} + \cdots + 2u + 1)^2$
c_3, c_8	$(u^{12} + u^{11} - u^{10} - 2u^9 + 3u^8 + 4u^7 - 2u^6 - 4u^5 + 2u^4 + 3u^3 - u^2 + 1)^2$
c_5, c_6, c_7 c_9, c_{10}	$u^{24} - 3u^{23} + \cdots - 52u + 17$
c_{11}	$u^{24} - 11u^{23} + \cdots - 1784u + 289$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{12} - 7y^{11} + \cdots - 2y + 1)^2$
c_2	$(y^{12} - 3y^{11} + \cdots + 6y + 1)^2$
c_3, c_8	$(y^{12} - 3y^{11} + \cdots - 2y + 1)^2$
c_5, c_6, c_7 c_9, c_{10}	$y^{24} + 11y^{23} + \cdots + 1784y + 289$
c_{11}	$y^{24} + 3y^{23} + \cdots + 158184y + 83521$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.915752 + 0.387588I$ $a = -0.719269 + 0.265989I$ $b = -0.693689 - 0.693688I$	$3.36661 - 4.24921I$	$-1.82351 + 6.98310I$
$u = -0.915752 + 0.387588I$ $a = 0.31123 - 1.71799I$ $b = 0.005311 + 1.403560I$	$3.36661 - 4.24921I$	$-1.82351 + 6.98310I$
$u = -0.915752 - 0.387588I$ $a = -0.719269 - 0.265989I$ $b = -0.693689 + 0.693688I$	$3.36661 + 4.24921I$	$-1.82351 - 6.98310I$
$u = -0.915752 - 0.387588I$ $a = 0.31123 + 1.71799I$ $b = 0.005311 - 1.403560I$	$3.36661 + 4.24921I$	$-1.82351 - 6.98310I$
$u = 0.825437 + 0.157146I$ $a = -1.25892 - 1.03181I$ $b = -0.441009 + 1.004140I$	$4.72717 + 0.35310I$	$2.66692 - 0.62981I$
$u = 0.825437 + 0.157146I$ $a = -0.37562 + 2.07265I$ $b = -0.215643 - 1.263560I$	$4.72717 + 0.35310I$	$2.66692 - 0.62981I$
$u = 0.825437 - 0.157146I$ $a = -1.25892 + 1.03181I$ $b = -0.441009 - 1.004140I$	$4.72717 - 0.35310I$	$2.66692 + 0.62981I$
$u = 0.825437 - 0.157146I$ $a = -0.37562 - 2.07265I$ $b = -0.215643 + 1.263560I$	$4.72717 - 0.35310I$	$2.66692 + 0.62981I$
$u = -0.895445 + 0.803537I$ $a = 0.520071 - 1.227910I$ $b = 0.685814 + 0.940144I$	$-0.75031 - 3.01307I$	$-3.36825 + 2.63251I$
$u = -0.895445 + 0.803537I$ $a = 0.330877 - 0.145723I$ $b = -0.841964 + 0.498902I$	$-0.75031 - 3.01307I$	$-3.36825 + 2.63251I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.895445 - 0.803537I$ $a = 0.520071 + 1.227910I$ $b = 0.685814 - 0.940144I$	$-0.75031 + 3.01307I$	$-3.36825 - 2.63251I$
$u = -0.895445 - 0.803537I$ $a = 0.330877 + 0.145723I$ $b = -0.841964 - 0.498902I$	$-0.75031 + 3.01307I$	$-3.36825 - 2.63251I$
$u = 0.849698 + 0.874392I$ $a = 0.495565 + 1.219030I$ $b = 0.832505 - 0.684481I$	$-4.62532 - 1.48234I$	$-7.15258 + 0.67542I$
$u = 0.849698 + 0.874392I$ $a = 0.542966 + 0.125815I$ $b = -0.789930 - 0.801459I$	$-4.62532 - 1.48234I$	$-7.15258 + 0.67542I$
$u = 0.849698 - 0.874392I$ $a = 0.495565 - 1.219030I$ $b = 0.832505 + 0.684481I$	$-4.62532 + 1.48234I$	$-7.15258 - 0.67542I$
$u = 0.849698 - 0.874392I$ $a = 0.542966 - 0.125815I$ $b = -0.789930 + 0.801459I$	$-4.62532 + 1.48234I$	$-7.15258 - 0.67542I$
$u = 0.962887 + 0.828850I$ $a = 0.498094 + 1.238190I$ $b = 0.856755 - 1.092410I$	$-4.26829 + 7.80134I$	$-6.36611 - 5.63981I$
$u = 0.962887 + 0.828850I$ $a = 0.317556 - 0.012937I$ $b = -1.096910 - 0.503770I$	$-4.26829 + 7.80134I$	$-6.36611 - 5.63981I$
$u = 0.962887 - 0.828850I$ $a = 0.498094 - 1.238190I$ $b = 0.856755 + 1.092410I$	$-4.26829 - 7.80134I$	$-6.36611 + 5.63981I$
$u = 0.962887 - 0.828850I$ $a = 0.317556 + 0.012937I$ $b = -1.096910 + 0.503770I$	$-4.26829 - 7.80134I$	$-6.36611 + 5.63981I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.326826 + 0.552791I$ $a = -0.32038 - 3.37299I$ $b = 0.155092 - 0.786191I$	$1.55013 + 0.71593I$	$-7.95647 - 0.64874I$
$u = -0.326826 + 0.552791I$ $a = 3.65784 - 0.87628I$ $b = 0.043670 + 1.147520I$	$1.55013 + 0.71593I$	$-7.95647 - 0.64874I$
$u = -0.326826 - 0.552791I$ $a = -0.32038 + 3.37299I$ $b = 0.155092 + 0.786191I$	$1.55013 - 0.71593I$	$-7.95647 + 0.64874I$
$u = -0.326826 - 0.552791I$ $a = 3.65784 + 0.87628I$ $b = 0.043670 - 1.147520I$	$1.55013 - 0.71593I$	$-7.95647 + 0.64874I$

III.

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.307140 + 0.215080I$ $a = -0.72238 - 1.35722I$ $b = 1.000000I$	$6.31400 + 2.82812I$	$3.50976 - 2.97945I$
$u = 1.307140 - 0.215080I$ $a = -0.72238 + 1.35722I$ $b = -1.000000I$	$6.31400 - 2.82812I$	$3.50976 + 2.97945I$
$u = -1.307140 + 0.215080I$ $a = -0.35722 - 1.72238I$ $b = 1.000000I$	$6.31400 - 2.82812I$	$3.50976 + 2.97945I$
$u = -1.307140 - 0.215080I$ $a = -0.35722 + 1.72238I$ $b = -1.000000I$	$6.31400 + 2.82812I$	$3.50976 - 2.97945I$
$u = 0.569840I$ $a = 3.07960 + 2.07960I$ $b = 1.000000I$	2.17641	−3.01950
$u = -0.569840I$ $a = 3.07960 - 2.07960I$ $b = -1.000000I$	2.17641	−3.01950

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

(i) Arc colorings

$$a_3 = \begin{pmatrix} -0.5 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.5 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.5 \\ 2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -14.25$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -0.500000$ $a = 0$ $b = 1.00000$	-3.28987	-14.2500

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^3+u^2-1)^2(u^{12}-u^{11}+\cdots-2u+1)^2$ $\cdot(u^{20}-2u^{19}+\cdots-3u-4)$
c_2	$(u+1)(u^3+u^2+2u+1)^2(u^{12}+7u^{11}+\cdots+2u+1)^2$ $\cdot(u^{20}+10u^{19}+\cdots+65u+16)$
c_3, c_8	$u(u^6-3u^4+2u^2+1)$ $\cdot(u^{12}+u^{11}-u^{10}-2u^9+3u^8+4u^7-2u^6-4u^5+2u^4+3u^3-u^2+1)^2$ $\cdot(u^{20}-3u^{19}+\cdots+6u+8)$
c_4	$(u+1)(u^3-u^2+1)^2(u^{12}-u^{11}+\cdots-2u+1)^2$ $\cdot(u^{20}-2u^{19}+\cdots-3u-4)$
c_5, c_6, c_7	$(u-1)(u^2+1)^3(u^{20}+u^{19}+\cdots+u^2-1)(u^{24}-3u^{23}+\cdots-52u+17)$
c_9, c_{10}	$(u+1)(u^2+1)^3(u^{20}+u^{19}+\cdots+u^2-1)(u^{24}-3u^{23}+\cdots-52u+17)$
c_{11}	$((u-1)^6)(u+1)(u^{20}-5u^{19}+\cdots+2u+1)$ $\cdot(u^{24}-11u^{23}+\cdots-1784u+289)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y-1)(y^3-y^2+2y-1)^2(y^{12}-7y^{11}+\cdots-2y+1)^2$ $\cdot(y^{20}-10y^{19}+\cdots-65y+16)$
c_2	$(y-1)(y^3+3y^2+2y-1)^2(y^{12}-3y^{11}+\cdots+6y+1)^2$ $\cdot(y^{20}+2y^{19}+\cdots+3935y+256)$
c_3, c_8	$y(y^3-3y^2+2y+1)^2(y^{12}-3y^{11}+\cdots-2y+1)^2$ $\cdot(y^{20}-9y^{19}+\cdots-372y+64)$
c_5, c_6, c_7 c_9, c_{10}	$(y-1)(y+1)^6(y^{20}+5y^{19}+\cdots-2y+1)$ $\cdot(y^{24}+11y^{23}+\cdots+1784y+289)$
c_{11}	$((y-1)^7)(y^{20}+21y^{19}+\cdots-26y+1)$ $\cdot(y^{24}+3y^{23}+\cdots+158184y+83521)$