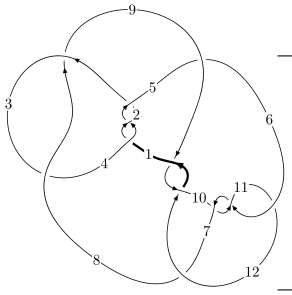
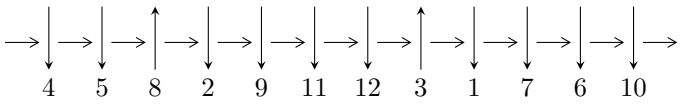
$12a_{0823}$ $(K12a_{0823})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$\underset{c_{10}}{7,10} \to \underset{c_6}{11} \to \underset{c_{11}}{6} \to \underset{c_7}{12} \to \underset{c_{12}}{8} \to \underset{c_1}{1,4} \to \underset{c_3}{2} \longrightarrow \underset{c_9}{3} \longrightarrow \underset{c_5}{9} \longrightarrow 5 \longrightarrow\!\!\!\!\rightarrow c_2, c_4, c_8$$

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

$I_1^u = \langle 2u^{76} + 4u^{75} + \cdots + b - 2,\ -2u^{75} - 2u^{74} + \cdots + a - 5u,\ u^{77} + 2u^{76} + \cdots - 3u - 1\rangle$

$I_2^u = \langle b + u,\ a - u + 1,\ u^3 + 2u + 1\rangle$

$I_3^u = \langle -u^3 + b - 2u + 1,\ a - 1,\ u^4 - u^3 + 2u^2 - 2u + 1\rangle$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 84 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. $I_1^u =$
$\langle 2u^{76}+4u^{75}+\cdots+b-2,\ -2u^{75}-2u^{74}+\cdots+a-5u,\ u^{77}+2u^{76}+\cdots-3u-1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^2+1 \\ u^4+2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^5-2u^3-u \\ -u^7-3u^5-2u^3+u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4-u^2+1 \\ u^4+2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2u^{75}+2u^{74}+\cdots+10u^2+5u \\ -2u^{76}-4u^{75}+\cdots+4u+2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{75}-u^{74}+\cdots-9u^2-5u \\ u^{76}+2u^{75}+\cdots-u-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{71}+u^{70}+\cdots+7u+1 \\ -u^{71}-33u^{69}+\cdots-6u^2-u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^8+3u^6+u^4-2u^2+1 \\ -u^8-4u^6-4u^4 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{19}+8u^{17}+24u^{15}+30u^{13}+7u^{11}-10u^9+4u^7+6u^5-3u^3+2u \\ -u^{19}-9u^{17}-32u^{15}-55u^{13}-43u^{11}-9u^9-4u^5+u^3+u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{76}+8u^{75}+\cdots-7u-17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{77} - 8u^{76} + \cdots + 8u - 1$
c_3, c_8	$u^{77} + u^{76} + \cdots - 64u - 128$
c_5	$u^{77} + 2u^{76} + \cdots - 29557u - 8221$
c_6, c_{10}, c_{11}	$u^{77} + 2u^{76} + \cdots - 3u - 1$
c_7	$u^{77} - 2u^{76} + \cdots - 5736u - 1480$
c_9, c_{12}	$u^{77} - 12u^{76} + \cdots - 1271u + 131$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{77} - 74y^{76} + \cdots + 40y - 1$
c_3, c_8	$y^{77} + 45y^{76} + \cdots + 12288y - 16384$
c_5	$y^{77} - 24y^{76} + \cdots + 1924884845y - 67584841$
c_6, c_{10}, c_{11}	$y^{77} + 72y^{76} + \cdots + 17y - 1$
c_7	$y^{77} + 24y^{76} + \cdots - 8997104y - 2190400$
c_9, c_{12}	$y^{77} + 60y^{76} + \cdots + 256185y - 17161$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.191592 + 1.136970I$ $a = 1.25258 - 0.95288I$ $b = 0.250746 + 0.488141I$	$-7.29823 + 2.50311I$	0
$u = 0.191592 - 1.136970I$ $a = 1.25258 + 0.95288I$ $b = 0.250746 - 0.488141I$	$-7.29823 - 2.50311I$	0
$u = 0.648234 + 0.470762I$ $a = 1.50700 - 0.30976I$ $b = 0.10743 + 2.01764I$	$0.35199 - 2.14980I$	$-12.14186 + 3.38026I$
$u = 0.648234 - 0.470762I$ $a = 1.50700 + 0.30976I$ $b = 0.10743 - 2.01764I$	$0.35199 + 2.14980I$	$-12.14186 - 3.38026I$
$u = -0.698472 + 0.381933I$ $a = 1.38596 - 1.79815I$ $b = -2.15973 - 1.56032I$	$-5.29571 + 11.59140I$	$-11.4531 - 8.4016I$
$u = -0.698472 - 0.381933I$ $a = 1.38596 + 1.79815I$ $b = -2.15973 + 1.56032I$	$-5.29571 - 11.59140I$	$-11.4531 + 8.4016I$
$u = 0.168145 + 1.208940I$ $a = -1.04755 + 0.98371I$ $b = 0.544196 - 0.621463I$	$-0.375128 - 0.568928I$	0
$u = 0.168145 - 1.208940I$ $a = -1.04755 - 0.98371I$ $b = 0.544196 + 0.621463I$	$-0.375128 + 0.568928I$	0
$u = -0.543692 + 0.555330I$ $a = 0.05223 + 1.78509I$ $b = 2.07554 - 1.21742I$	$-4.61972 - 7.40639I$	$-9.96869 + 2.60400I$
$u = -0.543692 - 0.555330I$ $a = 0.05223 - 1.78509I$ $b = 2.07554 + 1.21742I$	$-4.61972 + 7.40639I$	$-9.96869 - 2.60400I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.674418+0.378910I$ $a=-0.51345+1.54986I$ $b=\ \ 2.19270+0.48087I$	$0.66148+7.43215I$	$-8.44278-8.42340I$
$u=-0.674418-0.378910I$ $a=-0.51345-1.54986I$ $b=\ \ 2.19270-0.48087I$	$0.66148-7.43215I$	$-8.44278+8.42340I$
$u=\ \ 0.663405+0.365765I$ $a=-0.41627-2.27327I$ $b=\ \ 1.86641-0.34084I$	$-2.04586-5.11569I$	$-10.51933+5.70011I$
$u=\ \ 0.663405-0.365765I$ $a=-0.41627+2.27327I$ $b=\ \ 1.86641+0.34084I$	$-2.04586+5.11569I$	$-10.51933-5.70011I$
$u=-0.193391+1.227550I$ $a=-0.055721-1.084680I$ $b=-1.309470-0.174136I$	$-2.23828+3.03724I$	0
$u=-0.193391-1.227550I$ $a=-0.055721+1.084680I$ $b=-1.309470+0.174136I$	$-2.23828-3.03724I$	0
$u=\ \ 0.636507+0.409924I$ $a=-0.048390+1.303560I$ $b=-1.261700-0.283097I$	$3.19162-3.00945I$	$-2.81731+4.39327I$
$u=\ \ 0.636507-0.409924I$ $a=-0.048390-1.303560I$ $b=-1.261700+0.283097I$	$3.19162+3.00945I$	$-2.81731-4.39327I$
$u=\ \ 0.581959+0.456608I$ $a=-0.857892-0.656816I$ $b=\ \ 1.210810-0.588589I$	$3.40919-0.96956I$	$-2.16570+2.84354I$
$u=\ \ 0.581959-0.456608I$ $a=-0.857892+0.656816I$ $b=\ \ 1.210810+0.588589I$	$3.40919+0.96956I$	$-2.16570-2.84354I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.530488+0.512932I$ $a=\ \ 0.53897-1.77641I$ $b=-1.88073+0.09967I$	$1.24122-3.41237I$	$-6.71316+2.36836I$
$u=-0.530488-0.512932I$ $a=\ \ 0.53897+1.77641I$ $b=-1.88073-0.09967I$	$1.24122+3.41237I$	$-6.71316-2.36836I$
$u=\ \ 0.205270+1.249720I$ $a=\ \ 0.558990-0.770110I$ $b=-0.751957+1.042090I$	$0.05560-5.43305I$	0
$u=\ \ 0.205270-1.249720I$ $a=\ \ 0.558990+0.770110I$ $b=-0.751957-1.042090I$	$0.05560+5.43305I$	0
$u=-0.639232+0.359723I$ $a=-0.341288-0.577957I$ $b=-1.35130+0.64186I$	$-0.67724+2.50744I$	$-11.34570-3.59018I$
$u=-0.639232-0.359723I$ $a=-0.341288+0.577957I$ $b=-1.35130-0.64186I$	$-0.67724-2.50744I$	$-11.34570+3.59018I$
$u=-0.665128+0.278108I$ $a=-0.319540-0.999371I$ $b=-0.008826-0.427772I$	$-8.17542+0.47611I$	$-14.7158-2.7445I$
$u=-0.665128-0.278108I$ $a=-0.319540+0.999371I$ $b=-0.008826+0.427772I$	$-8.17542-0.47611I$	$-14.7158+2.7445I$
$u=\ \ 0.244033+1.257390I$ $a=-0.490522+0.142450I$ $b=\ \ 0.92817-1.27652I$	$-6.42273-9.14754I$	0
$u=\ \ 0.244033-1.257390I$ $a=-0.490522-0.142450I$ $b=\ \ 0.92817+1.27652I$	$-6.42273+9.14754I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.140039+1.287520I$ $a=\ 0.024976+0.385611I$ $b=\ 0.504759-0.003724I$	$3.01135+2.29522I$	0
$u=-0.140039-1.287520I$ $a=\ 0.024976-0.385611I$ $b=\ 0.504759+0.003724I$	$3.01135-2.29522I$	0
$u=\ 0.501793+0.490701I$ $a=\ 0.860902+0.742398I$ $b=-1.82723-0.06586I$	$-1.44185+1.23982I$	$-8.66150+0.75675I$
$u=\ 0.501793-0.490701I$ $a=\ 0.860902-0.742398I$ $b=-1.82723+0.06586I$	$-1.44185-1.23982I$	$-8.66150-0.75675I$
$u=\ 0.030612+1.300700I$ $a=-1.43632-0.09108I$ $b=\ 0.806088+1.056020I$	$1.81589-0.96118I$	0
$u=\ 0.030612-1.300700I$ $a=-1.43632+0.09108I$ $b=\ 0.806088-1.056020I$	$1.81589+0.96118I$	0
$u=-0.317735+0.605450I$ $a=\ 0.780897-0.702370I$ $b=\ 0.427338-0.189042I$	$-6.84784+3.07044I$	$-11.28075-3.47607I$
$u=-0.317735-0.605450I$ $a=\ 0.780897+0.702370I$ $b=\ 0.427338+0.189042I$	$-6.84784-3.07044I$	$-11.28075+3.47607I$
$u=\ 0.677966+0.062750I$ $a=-1.315350+0.451550I$ $b=-0.615406+0.909035I$	$-10.48850-5.79061I$	$-17.0367+4.4441I$
$u=\ 0.677966-0.062750I$ $a=-1.315350-0.451550I$ $b=-0.615406-0.909035I$	$-10.48850+5.79061I$	$-17.0367-4.4441I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.508655+0.424322I$ $a=-1.11823+1.18156I$ $b=\ \ 0.738302+1.005860I$	$-0.212543+1.167780I$	$-10.21646-3.31814I$
$u=-0.508655-0.424322I$ $a=-1.11823-1.18156I$ $b=\ \ 0.738302-1.005860I$	$-0.212543-1.167780I$	$-10.21646+3.31814I$
$u=-0.046345+1.356970I$ $a=\ \ 0.429786+0.365022I$ $b=\ \ 0.054673-0.996286I$	$4.57102+1.91273I$	0
$u=-0.046345-1.356970I$ $a=\ \ 0.429786-0.365022I$ $b=\ \ 0.054673+0.996286I$	$4.57102-1.91273I$	0
$u=-0.634684$ $a=\ \ 2.01220$ $b=\ \ 1.27931$	-5.94766	-16.5240
$u=\ \ 0.630519+0.033395I$ $a=\ \ 0.592203+0.279484I$ $b=\ \ 0.148921-0.802727I$	$-3.86408-2.37823I$	$-15.7846+4.2598I$
$u=\ \ 0.630519-0.033395I$ $a=\ \ 0.592203-0.279484I$ $b=\ \ 0.148921+0.802727I$	$-3.86408+2.37823I$	$-15.7846-4.2598I$
$u=-0.25087+1.40762I$ $a=\ \ 0.0478365+0.1135190I$ $b=-0.127222+0.654262I$	$-2.79475+3.80266I$	0
$u=-0.25087-1.40762I$ $a=\ \ 0.0478365-0.1135190I$ $b=-0.127222-0.654262I$	$-2.79475-3.80266I$	0
$u=-0.07700+1.42792I$ $a=\ \ 0.476070-0.097068I$ $b=-1.006700+0.604162I$	$-0.55532+4.30754I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.07700-1.42792I$ $a=\ \ 0.476070+0.097068I$ $b=-1.006700-0.604162I$	$-0.55532-4.30754I$	0
$u=-0.20019+1.44614I$ $a=\ \ 2.10795+0.53113I$ $b=-0.92627-1.55636I$	$5.75987+3.83600I$	0
$u=-0.20019-1.44614I$ $a=\ \ 2.10795-0.53113I$ $b=-0.92627+1.55636I$	$5.75987-3.83600I$	0
$u=-0.24286+1.44306I$ $a=-1.29039+1.70660I$ $b=\ \ 1.72235-0.79745I$	$5.11778+5.74279I$	0
$u=-0.24286-1.44306I$ $a=-1.29039-1.70660I$ $b=\ \ 1.72235+0.79745I$	$5.11778-5.74279I$	0
$u=\ \ 0.18621+1.45304I$ $a=-2.92205-0.73186I$ $b=\ \ 2.10609-0.10486I$	$4.73087-1.28332I$	0
$u=\ \ 0.18621-1.45304I$ $a=-2.92205+0.73186I$ $b=\ \ 2.10609+0.10486I$	$4.73087+1.28332I$	0
$u=\ \ 0.25081+1.44678I$ $a=\ \ 2.48049+1.77440I$ $b=-1.99607+0.46680I$	$3.78033-8.45891I$	0
$u=\ \ 0.25081-1.44678I$ $a=\ \ 2.48049-1.77440I$ $b=-1.99607-0.46680I$	$3.78033+8.45891I$	0
$u=-0.25374+1.45283I$ $a=\ \ 2.99683-1.30974I$ $b=-2.52211-0.52460I$	$6.55336+10.82390I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.25374-1.45283I$ $a=\ \ 2.99683+1.30974I$ $b=-2.52211+0.52460I$	$6.55336-10.82390I$	0
$u=-0.18475+1.46518I$ $a=-2.66257+1.18028I$ $b=\ \ 2.11134+0.37230I$	$7.57007-0.82609I$	0
$u=-0.18475-1.46518I$ $a=-2.66257-1.18028I$ $b=\ \ 2.11134-0.37230I$	$7.57007+0.82609I$	0
$u=\ \ 0.23586+1.45906I$ $a=-1.42551-1.47383I$ $b=\ \ 1.45011+0.16039I$	$9.20898-6.20501I$	0
$u=\ \ 0.23586-1.45906I$ $a=-1.42551+1.47383I$ $b=\ \ 1.45011-0.16039I$	$9.20898+6.20501I$	0
$u=\ \ 0.21070+1.46383I$ $a=\ \ 2.24094-0.01125I$ $b=-1.43080+0.77753I$	$9.58297-3.87222I$	0
$u=\ \ 0.21070-1.46383I$ $a=\ \ 2.24094+0.01125I$ $b=-1.43080-0.77753I$	$9.58297+3.87222I$	0
$u=-0.26298+1.45689I$ $a=-3.77652+0.35669I$ $b=\ \ 2.35692+1.70683I$	$0.6203+15.0997I$	0
$u=-0.26298-1.45689I$ $a=-3.77652-0.35669I$ $b=\ \ 2.35692-1.70683I$	$0.6203-15.0997I$	0
$u=-0.17434+1.47906I$ $a=\ \ 2.32909-2.44851I$ $b=-2.38054+0.94253I$	$1.93159-4.85744I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.17434-1.47906I$ $a=\ \ 2.32909+2.44851I$ $b=-2.38054-0.94253I$	$1.93159+4.85744I$	0
$u=-0.500819$ $a=-0.741044$ $b=-0.370645$	-0.969871	-9.81070
$u=\ \ 0.22825+1.48172I$ $a=-1.26848+2.30843I$ $b=-0.22862-2.16336I$	$6.66843-5.34198I$	0
$u=\ \ 0.22825-1.48172I$ $a=-1.26848-2.30843I$ $b=-0.22862+2.16336I$	$6.66843+5.34198I$	0
$u=-0.258129+0.312221I$ $a=-0.91822+1.08073I$ $b=\ \ 0.070880+0.493977I$	$-0.483753+0.975967I$	$-7.83160-6.63357I$
$u=-0.258129-0.312221I$ $a=-0.91822-1.08073I$ $b=\ \ 0.070880-0.493977I$	$-0.483753-0.975967I$	$-7.83160+6.63357I$
$u=\ \ 0.276652$ $a=\ \ 2.84998$ $b=-0.686858$	-2.04721	0.166320

II. $I_2^u = \langle b+u,\ a-u+1,\ u^3+2u+1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

$$a_8 = \begin{pmatrix} u^2-u \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2+u+1 \\ -u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u-1 \\ -u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2+2u \\ -2u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u-1 \\ -u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u^2-u-1 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -7u^2+5u-18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^3$
c_3, c_8	y^3
c_5, c_6, c_9 c_{10}, c_{11}, c_{12}	y^3+4y^2+4y-1
c_7	$y^3+y^2+13y-4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.22670 + 1.46771I$ $a = -0.77330 + 1.46771I$ $b = -0.22670 - 1.46771I$	$7.79580 - 5.13794I$	$-2.14701 + 2.68036I$
$u = \quad 0.22670 - 1.46771I$ $a = -0.77330 - 1.46771I$ $b = -0.22670 + 1.46771I$	$7.79580 + 5.13794I$	$-2.14701 - 2.68036I$
$u = -0.453398$ $a = -1.45340$ $b = \quad 0.453398$	-2.43213	-21.7060

III. $I_3^u = \langle -u^3 + b - 2u + 1,\ a - 1,\ u^4 - u^3 + 2u^2 - 2u + 1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^3 + 2u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 - 2u + 1 \\ -u^3 + u^2 - u + 2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3 + u^2 - 2u + 2 \\ u^3 + 2u - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u^3 + 2u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^3 + u^2 - 2u + 3 \\ 2u^3 + 4u - 2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^3 + 2u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^3 - 2u + 1 \\ -u^3 + u^2 - u + 2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^3 - u^2 + 2u - 2 \\ -u^3 - 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^3 + 2u^2 + 2u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.621744 + 0.440597I$ $a = 1.00000$ $b = 0.121744 + 1.306620I$	$1.64493 - 2.02988I$	$-5.73686 + 3.25323I$
$u = 0.621744 - 0.440597I$ $a = 1.00000$ $b = 0.121744 - 1.306620I$	$1.64493 + 2.02988I$	$-5.73686 - 3.25323I$
$u = -0.121744 + 1.306620I$ $a = 1.00000$ $b = -0.621744 + 0.440597I$	$1.64493 + 2.02988I$	$-8.76314 - 4.54099I$
$u = -0.121744 - 1.306620I$ $a = 1.00000$ $b = -0.621744 - 0.440597I$	$1.64493 - 2.02988I$	$-8.76314 + 4.54099I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^7)(u^{77}-8u^{76}+\cdots+8u-1)$
c_3, c_8	$u^7(u^{77}+u^{76}+\cdots-64u-128)$
c_4	$((u+1)^7)(u^{77}-8u^{76}+\cdots+8u-1)$
c_5	$(u^3+2u-1)(u^4+u^3+2u^2+2u+1)(u^{77}+2u^{76}+\cdots-29557u-8221)$
c_6	$(u^3+2u-1)(u^4+u^3+2u^2+2u+1)(u^{77}+2u^{76}+\cdots-3u-1)$
c_7	$((u^2+u+1)^2)(u^3-3u^2+5u-2)(u^{77}-2u^{76}+\cdots-5736u-1480)$
c_9	$(u^3+2u-1)(u^4+u^3+2u^2+2u+1)(u^{77}-12u^{76}+\cdots-1271u+131)$
c_{10}, c_{11}	$(u^3+2u+1)(u^4-u^3+2u^2-2u+1)(u^{77}+2u^{76}+\cdots-3u-1)$
c_{12}	$(u^3+2u+1)(u^4-u^3+2u^2-2u+1)(u^{77}-12u^{76}+\cdots-1271u+131)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^7)(y^{77} - 74y^{76} + \cdots + 40y - 1)$
c_3, c_8	$y^7(y^{77} + 45y^{76} + \cdots + 12288y - 16384)$
c_5	$(y^3 + 4y^2 + 4y - 1)(y^4 + 3y^3 + 2y^2 + 1)$ $\cdot (y^{77} - 24y^{76} + \cdots + 1924884845y - 67584841)$
c_6, c_{10}, c_{11}	$(y^3 + 4y^2 + 4y - 1)(y^4 + 3y^3 + 2y^2 + 1)(y^{77} + 72y^{76} + \cdots + 17y - 1)$
c_7	$(y^2 + y + 1)^2(y^3 + y^2 + 13y - 4)$ $\cdot (y^{77} + 24y^{76} + \cdots - 8997104y - 2190400)$
c_9, c_{12}	$(y^3 + 4y^2 + 4y - 1)(y^4 + 3y^3 + 2y^2 + 1)$ $\cdot (y^{77} + 60y^{76} + \cdots + 256185y - 17161)$