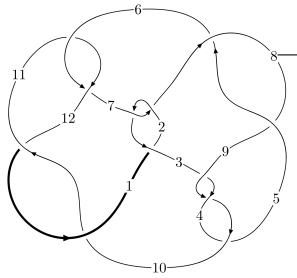
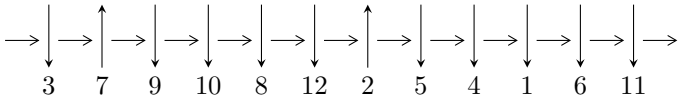
$12a_{0568}$ $(K12a_{0568})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 6.14215 \times 10^{45} u^{89} - 3.30510 \times 10^{45} u^{88} + \cdots + 8.82311 \times 10^{45} b - 2.12797 \times 10^{46},$$
$$- 3.98658 \times 10^{46} u^{89} + 5.02790 \times 10^{46} u^{88} + \cdots + 8.82311 \times 10^{45} a + 2.64205 \times 10^{47},\ u^{90} - u^{89} + \cdots - 11u -$$
$$I_2^u = \langle u^4 a + u^4 - 2u^2 a - 2u^2 + b - a,\ -u^5 a + 3u^3 a - u^4 + a^2 - 2au + 3u^2 - 2,\ u^6 - 3u^4 + 2u^2 + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 102 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.

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$\boldsymbol{I_1^u = \langle 6.14\times 10^{45}u^{89} - 3.31\times 10^{45}u^{88} + \cdots + 8.82\times 10^{45}b - 2.13\times 10^{46},\ -3.99\times 10^{46}u^{89} + 5.03\times 10^{46}u^{88} + \cdots + 8.82\times 10^{45}a + 2.64\times 10^{47},\ u^{90} - u^{89} + \cdots - 11u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} 4.51834u^{89} - 5.69856u^{88} + \cdots - 157.416u - 29.9447 \\ -0.696143u^{89} + 0.374596u^{88} + \cdots + 4.22395u + 2.41181 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 5.71831u^{89} - 7.17155u^{88} + \cdots - 186.704u - 44.7259 \\ -1.66422u^{89} - 0.736261u^{88} + \cdots - 37.5768u - 5.22880 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 4.57115u^{89} - 6.31172u^{88} + \cdots - 163.112u - 31.9782 \\ -1.06131u^{89} - 0.301013u^{88} + \cdots - 1.47856u + 1.93140 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} u^6 - 3u^4 + 2u^2 + 1 \\ u^8 - 2u^6 + 2u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.67198u^{89} - 3.85942u^{88} + \cdots - 90.2360u - 27.2951 \\ 2.09638u^{89} - 0.675864u^{88} + \cdots - 16.6943u - 4.75859 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 5.32448u^{89} - 6.50749u^{88} + \cdots - 171.372u - 42.3482 \\ -1.29912u^{89} - 0.713830u^{88} + \cdots - 34.4333u - 4.88931 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.10870u^{89} - 2.12548u^{88} + \cdots - 53.7193u - 31.3376$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{90}+41u^{89}+\cdots-69u+1$
c_2, c_7	$u^{90}+u^{89}+\cdots+13u-1$
c_3, c_4, c_9	$u^{90}+u^{89}+\cdots+11u-1$
c_5, c_8	$u^{90}-3u^{89}+\cdots-10133u+783$
c_6, c_{11}	$u^{90}+u^{89}+\cdots+9u-5$
c_{10}, c_{12}	$u^{90}+29u^{89}+\cdots+471u+25$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{90} + 29y^{89} + \cdots - 1117y + 1$
c_2, c_7	$y^{90} + 41y^{89} + \cdots - 69y + 1$
c_3, c_4, c_9	$y^{90} - 75y^{89} + \cdots - 89y + 1$
c_5, c_8	$y^{90} + 65y^{89} + \cdots - 60583609y + 613089$
c_6, c_{11}	$y^{90} - 29y^{89} + \cdots - 471y + 25$
c_{10}, c_{12}	$y^{90} + 71y^{89} + \cdots - 78091y + 625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.063363+0.857170I$ $a=-1.60157-0.02571I$ $b=-0.981273+0.593879I$	$9.60013-0.30151I$	$-1.10817+1.54965I$
$u=-0.063363-0.857170I$ $a=-1.60157+0.02571I$ $b=-0.981273-0.593879I$	$9.60013+0.30151I$	$-1.10817-1.54965I$
$u=0.118441+0.851139I$ $a=1.49393-0.11981I$ $b=0.898638+0.842251I$	$7.97578-5.92214I$	$-2.87748+3.29056I$
$u=0.118441-0.851139I$ $a=1.49393+0.11981I$ $b=0.898638-0.842251I$	$7.97578+5.92214I$	$-2.87748-3.29056I$
$u=-0.138419+0.847253I$ $a=1.90893+0.26202I$ $b=1.129030-0.755146I$	$6.97122+12.03910I$	$-4.54855-8.02805I$
$u=-0.138419-0.847253I$ $a=1.90893-0.26202I$ $b=1.129030+0.755146I$	$6.97122-12.03910I$	$-4.54855+8.02805I$
$u=0.089333+0.853199I$ $a=-1.84826+0.20136I$ $b=-1.141640-0.418693I$	$9.00366-5.86140I$	$-1.98243+3.66515I$
$u=0.089333-0.853199I$ $a=-1.84826-0.20136I$ $b=-1.141640+0.418693I$	$9.00366+5.86140I$	$-1.98243-3.66515I$
$u=-1.109560+0.413438I$ $a=-0.120973+1.369430I$ $b=0.098202+0.474134I$	$3.99789-7.50254I$	0
$u=-1.109560-0.413438I$ $a=-0.120973-1.369430I$ $b=0.098202-0.474134I$	$3.99789+7.50254I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.182370 + 0.122207I$ $a = 0.100406 + 0.432195I$ $b = 1.193500 + 0.510369I$	$-1.82140 - 0.65010I$	0
$u = 1.182370 - 0.122207I$ $a = 0.100406 - 0.432195I$ $b = 1.193500 - 0.510369I$	$-1.82140 + 0.65010I$	0
$u = 0.041756 + 0.807032I$ $a = -0.159012 - 0.738937I$ $b = 0.036451 + 0.424290I$	$4.52384 - 2.64817I$	$-1.47152 + 3.33157I$
$u = 0.041756 - 0.807032I$ $a = -0.159012 + 0.738937I$ $b = 0.036451 - 0.424290I$	$4.52384 + 2.64817I$	$-1.47152 - 3.33157I$
$u = -0.097470 + 0.785464I$ $a = 0.82289 + 1.43240I$ $b = 0.563552 - 0.155489I$	$0.42228 + 5.90745I$	$-7.85230 - 6.60506I$
$u = -0.097470 - 0.785464I$ $a = 0.82289 - 1.43240I$ $b = 0.563552 + 0.155489I$	$0.42228 - 5.90745I$	$-7.85230 + 6.60506I$
$u = 1.138980 + 0.412263I$ $a = -0.194847 - 1.067110I$ $b = 0.271357 - 0.244873I$	$4.84987 + 1.38168I$	0
$u = 1.138980 - 0.412263I$ $a = -0.194847 + 1.067110I$ $b = 0.271357 + 0.244873I$	$4.84987 - 1.38168I$	0
$u = -1.174040 + 0.310051I$ $a = 0.760441 + 0.711639I$ $b = 1.23530 + 0.88131I$	$-2.83425 - 1.91319I$	0
$u = -1.174040 - 0.310051I$ $a = 0.760441 - 0.711639I$ $b = 1.23530 - 0.88131I$	$-2.83425 + 1.91319I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.021656+0.777387I$ $a=\ 1.64509+0.25611I$ $b=\ 1.77954+0.17094I$	$2.06022+2.77574I$	$-4.04299-3.19683I$
$u=-0.021656-0.777387I$ $a=\ 1.64509-0.25611I$ $b=\ 1.77954-0.17094I$	$2.06022-2.77574I$	$-4.04299+3.19683I$
$u=-0.582202+0.482242I$ $a=\ 1.56154-1.15042I$ $b=\ 0.641273-0.707070I$	$2.15933+7.36357I$	$-6.87028-8.54868I$
$u=-0.582202-0.482242I$ $a=\ 1.56154+1.15042I$ $b=\ 0.641273+0.707070I$	$2.15933-7.36357I$	$-6.87028+8.54868I$
$u=\ 1.176580+0.408870I$ $a=\ 0.202086+1.238210I$ $b=\ 0.535480+0.478102I$	$5.66669+1.33161I$	0
$u=\ 1.176580-0.408870I$ $a=\ 0.202086-1.238210I$ $b=\ 0.535480-0.478102I$	$5.66669-1.33161I$	0
$u=-0.005141+0.749243I$ $a=-1.11720+1.29527I$ $b=-0.296478+0.005780I$	$1.47758-1.34536I$	$-4.73272+0.56742I$
$u=-0.005141-0.749243I$ $a=-1.11720-1.29527I$ $b=-0.296478-0.005780I$	$1.47758+1.34536I$	$-4.73272-0.56742I$
$u=-1.260060+0.057506I$ $a=-0.008082-0.481249I$ $b=-1.90367-0.70076I$	$-4.87070+2.52144I$	0
$u=-1.260060-0.057506I$ $a=-0.008082+0.481249I$ $b=-1.90367+0.70076I$	$-4.87070-2.52144I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.205890+0.409098I$ $a=\ 0.314677-1.064430I$ $b=\ 0.378068-0.298950I$	$6.08340+4.84091I$	0
$u=-1.205890-0.409098I$ $a=\ 0.314677+1.064430I$ $b=\ 0.378068+0.298950I$	$6.08340-4.84091I$	0
$u=\ 0.520473+0.500551I$ $a=\ 1.17156+1.23439I$ $b=\ 0.524177+0.800626I$	$2.66978-1.59618I$	$-5.41754+3.51950I$
$u=\ 0.520473-0.500551I$ $a=\ 1.17156-1.23439I$ $b=\ 0.524177-0.800626I$	$2.66978+1.59618I$	$-5.41754-3.51950I$
$u=\ 1.230560+0.352038I$ $a=\ 0.445034-0.089140I$ $b=\ 1.54264-0.03383I$	$0.86290-1.52902I$	0
$u=\ 1.230560-0.352038I$ $a=\ 0.445034+0.089140I$ $b=\ 1.54264+0.03383I$	$0.86290+1.52902I$	0
$u=-0.386151+0.600663I$ $a=-1.37669+1.32407I$ $b=-0.260073+0.690515I$	$2.78195-3.49276I$	$-4.88676+2.39495I$
$u=-0.386151-0.600663I$ $a=-1.37669-1.32407I$ $b=-0.260073-0.690515I$	$2.78195+3.49276I$	$-4.88676-2.39495I$
$u=-1.285160+0.169868I$ $a=\ 0.1170600-0.0114062I$ $b=-1.096790-0.353976I$	$-4.98736+2.80353I$	0
$u=-1.285160-0.169868I$ $a=\ 0.1170600+0.0114062I$ $b=-1.096790+0.353976I$	$-4.98736-2.80353I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.297550 + 0.009629I$ $a = -0.505550 - 0.905163I$ $b = -3.00177 - 1.14994I$	$-6.16458 - 2.17147I$	0
$u = 1.297550 - 0.009629I$ $a = -0.505550 + 0.905163I$ $b = -3.00177 + 1.14994I$	$-6.16458 + 2.17147I$	0
$u = -1.255600 + 0.330283I$ $a = -0.133760 + 0.939798I$ $b = -1.95449 - 0.44736I$	$-1.75554 + 1.21643I$	0
$u = -1.255600 - 0.330283I$ $a = -0.133760 - 0.939798I$ $b = -1.95449 + 0.44736I$	$-1.75554 - 1.21643I$	0
$u = -1.286820 + 0.199890I$ $a = 0.543186 - 0.643193I$ $b = 1.58806 - 0.78450I$	$-2.98447 + 4.84215I$	0
$u = -1.286820 - 0.199890I$ $a = 0.543186 + 0.643193I$ $b = 1.58806 + 0.78450I$	$-2.98447 - 4.84215I$	0
$u = 0.431408 + 0.548012I$ $a = -1.57826 - 0.95667I$ $b = -0.355469 - 0.430801I$	$2.94450 - 2.17437I$	$-4.51675 + 3.49335I$
$u = 0.431408 - 0.548012I$ $a = -1.57826 + 0.95667I$ $b = -0.355469 + 0.430801I$	$2.94450 + 2.17437I$	$-4.51675 - 3.49335I$
$u = -1.279690 + 0.313561I$ $a = 0.872641 - 0.321924I$ $b = 2.23380 - 0.02437I$	$-2.48888 + 5.16894I$	0
$u = -1.279690 - 0.313561I$ $a = 0.872641 + 0.321924I$ $b = 2.23380 + 0.02437I$	$-2.48888 - 5.16894I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.279580 + 0.320443I$ $a = -0.535442 + 0.891919I$ $b = -1.03388 + 1.66321I$	$-2.52541 - 2.51929I$	0
$u = 1.279580 - 0.320443I$ $a = -0.535442 - 0.891919I$ $b = -1.03388 - 1.66321I$	$-2.52541 + 2.51929I$	0
$u = -1.32526$ $a = 0.698690$ $b = 2.15962$	-6.06566	0
$u = 1.286350 + 0.336602I$ $a = -0.476581 - 0.906569I$ $b = -2.19673 + 0.73627I$	$-2.01618 - 6.79326I$	0
$u = 1.286350 - 0.336602I$ $a = -0.476581 + 0.906569I$ $b = -2.19673 - 0.73627I$	$-2.01618 + 6.79326I$	0
$u = -0.147786 + 0.640241I$ $a = 0.110299 + 0.934916I$ $b = 0.760246 + 0.559116I$	$-1.72468 - 0.26912I$	$-10.83738 - 0.89034I$
$u = -0.147786 - 0.640241I$ $a = 0.110299 - 0.934916I$ $b = 0.760246 - 0.559116I$	$-1.72468 + 0.26912I$	$-10.83738 + 0.89034I$
$u = -1.297240 + 0.356564I$ $a = -0.378686 - 0.299994I$ $b = -1.50255 - 0.46141I$	$0.34536 + 6.83857I$	0
$u = -1.297240 - 0.356564I$ $a = -0.378686 + 0.299994I$ $b = -1.50255 + 0.46141I$	$0.34536 - 6.83857I$	0
$u = 1.343110 + 0.269514I$ $a = -0.524843 + 0.057528I$ $b = -1.27472 + 1.65070I$	$-6.42041 - 3.07803I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.343110 - 0.269514I$ $a = -0.524843 - 0.057528I$ $b = -1.27472 - 1.65070I$	$-6.42041 + 3.07803I$	0
$u = 1.314120 + 0.387182I$ $a = 0.396415 + 0.891589I$ $b = 2.26148 + 0.88058I$	$5.29539 - 4.16366I$	0
$u = 1.314120 - 0.387182I$ $a = 0.396415 - 0.891589I$ $b = 2.26148 - 0.88058I$	$5.29539 + 4.16366I$	0
$u = 1.330400 + 0.341932I$ $a = -0.971871 - 0.087810I$ $b = -2.83341 + 0.46508I$	$-4.06109 - 9.98132I$	0
$u = 1.330400 - 0.341932I$ $a = -0.971871 + 0.087810I$ $b = -2.83341 - 0.46508I$	$-4.06109 + 9.98132I$	0
$u = 1.373430 + 0.048365I$ $a = -0.767535 - 0.097752I$ $b = -2.97432 - 0.89635I$	$-9.16535 - 3.75736I$	0
$u = 1.373430 - 0.048365I$ $a = -0.767535 + 0.097752I$ $b = -2.97432 + 0.89635I$	$-9.16535 + 3.75736I$	0
$u = -1.331210 + 0.380889I$ $a = 0.583489 - 1.007120I$ $b = 2.53189 - 0.84297I$	$4.55165 + 10.29420I$	0
$u = -1.331210 - 0.380889I$ $a = 0.583489 + 1.007120I$ $b = 2.53189 + 0.84297I$	$4.55165 - 10.29420I$	0
$u = -1.384510 + 0.175464I$ $a = 0.313458 - 0.798286I$ $b = 1.16677 - 1.84566I$	$-2.77389 + 4.61364I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.384510-0.175464I$ $a=\ \ 0.313458+0.798286I$ $b=\ \ 1.16677+1.84566I$	$-2.77389-4.61364I$	0
$u=\ \ 0.088847+0.593570I$ $a=-1.267680+0.443062I$ $b=-0.355861+0.190586I$	$1.26113-1.94724I$	$-1.26470+4.88857I$
$u=\ \ 0.088847-0.593570I$ $a=-1.267680-0.443062I$ $b=-0.355861-0.190586I$	$1.26113+1.94724I$	$-1.26470-4.88857I$
$u=-1.348930+0.375417I$ $a=-0.450729+0.777779I$ $b=-2.66287+1.04047I$	$3.36379+10.33230I$	0
$u=-1.348930-0.375417I$ $a=-0.450729-0.777779I$ $b=-2.66287-1.04047I$	$3.36379-10.33230I$	0
$u=\ \ 1.359890+0.369867I$ $a=-0.653151-0.982400I$ $b=-3.12308-1.16988I$	$2.2530-16.4188I$	0
$u=\ \ 1.359890-0.369867I$ $a=-0.653151+0.982400I$ $b=-3.12308+1.16988I$	$2.2530+16.4188I$	0
$u=\ \ 1.396870+0.210945I$ $a=-0.084795+0.884790I$ $b=\ \ 0.41641+2.40101I$	$-2.84556+0.64989I$	0
$u=\ \ 1.396870-0.210945I$ $a=-0.084795-0.884790I$ $b=\ \ 0.41641-2.40101I$	$-2.84556-0.64989I$	0
$u=-1.41175+0.12137I$ $a=-0.095134+0.753585I$ $b=-1.32255+2.15631I$	$-3.48836+3.57809I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.41175-0.12137I$ $a=-0.095134-0.753585I$ $b=-1.32255-2.15631I$	$-3.48836-3.57809I$	0
$u=\ \ 1.42791+0.09976I$ $a=-0.392155-0.947090I$ $b=-1.96208-2.58798I$	$-4.28279-9.13323I$	0
$u=\ \ 1.42791-0.09976I$ $a=-0.392155+0.947090I$ $b=-1.96208+2.58798I$	$-4.28279+9.13323I$	0
$u=-0.509221+0.204867I$ $a=\ \ 1.69198+0.01287I$ $b=\ \ 0.496630-0.602823I$	$-3.40120+2.98415I$	$-15.2193-6.2457I$
$u=-0.509221-0.204867I$ $a=\ \ 1.69198-0.01287I$ $b=\ \ 0.496630+0.602823I$	$-3.40120-2.98415I$	$-15.2193+6.2457I$
$u=\ \ 0.261176+0.331858I$ $a=\ \ 0.078211-0.357078I$ $b=\ \ 0.376699+0.343421I$	$-0.487076-1.059670I$	$-6.96958+6.21248I$
$u=\ \ 0.261176-0.331858I$ $a=\ \ 0.078211+0.357078I$ $b=\ \ 0.376699-0.343421I$	$-0.487076+1.059670I$	$-6.96958-6.21248I$
$u=\ \ 0.406442$ $a=-1.12943$ $b=\ \ 0.00215565$	-0.922985	-11.2910
$u=-0.147866+0.018730I$ $a=\ \ 4.32486-5.82803I$ $b=\ \ 0.993627+0.299114I$	$-1.72348+2.04115I$	$-15.6502-3.1222I$
$u=-0.147866-0.018730I$ $a=\ \ 4.32486+5.82803I$ $b=\ \ 0.993627-0.299114I$	$-1.72348-2.04115I$	$-15.6502+3.1222I$

II. $I_2^u = \langle u^4a + u^4 - 2u^2a - 2u^2 + b - a,\ -u^5a + 3u^3a - u^4 + a^2 - 2au + 3u^2 - 2,\ u^6 - 3u^4 + 2u^2 + 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} a \\ -u^4a - u^4 + 2u^2a + 2u^2 + a \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u^5 + 3u^3 + a - 2u \\ u^5a - u^4a - u^5 - 2u^3a + 2u^2a + 2u^3 + a + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -u^2 + a + 1 \\ -u^4a - u^4 + 2u^2a + u^2 + a \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 0 \\ u^4 - u^2 - 1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -u^5 + 3u^3 + a - 2u \\ u^5a - u^4a - u^5 - 2u^3a + u^2a + 2u^3 + a \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.307140 + 0.215080I$ $a = -0.478572 - 0.583789I$ $b = -0.45589 - 1.48442I$	$-4.66906 - 0.79824I$	$-13.50976 - 0.48465I$
$u = 1.307140 + 0.215080I$ $a = -0.266290 + 0.706350I$ $b = 0.903629 + 0.779616I$	$-4.66906 - 4.85801I$	$-13.5098 + 6.4435I$
$u = 1.307140 - 0.215080I$ $a = -0.478572 + 0.583789I$ $b = -0.45589 + 1.48442I$	$-4.66906 + 0.79824I$	$-13.50976 + 0.48465I$
$u = 1.307140 - 0.215080I$ $a = -0.266290 - 0.706350I$ $b = 0.903629 - 0.779616I$	$-4.66906 + 4.85801I$	$-13.5098 - 6.4435I$
$u = -1.307140 + 0.215080I$ $a = 0.478572 - 0.583789I$ $b = 2.21077 + 0.00530I$	$-4.66906 + 4.85801I$	$-13.5098 - 6.4435I$
$u = -1.307140 + 0.215080I$ $a = 0.266290 + 0.706350I$ $b = 0.85125 + 2.26934I$	$-4.66906 + 0.79824I$	$-13.50976 + 0.48465I$
$u = -1.307140 - 0.215080I$ $a = 0.478572 + 0.583789I$ $b = 2.21077 - 0.00530I$	$-4.66906 - 4.85801I$	$-13.5098 + 6.4435I$
$u = -1.307140 - 0.215080I$ $a = 0.266290 - 0.706350I$ $b = 0.85125 - 2.26934I$	$-4.66906 - 0.79824I$	$-13.50976 - 0.48465I$
$u = 0.569840I$ $a = -1.51977 + 0.87744I$ $b = -1.127410 + 0.215080I$	$-0.53148 + 2.02988I$	$-6.98049 - 3.46410I$
$u = 0.569840I$ $a = 1.51977 + 0.87744I$ $b = -0.382348 + 0.215080I$	$-0.53148 - 2.02988I$	$-6.98049 + 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.569840I$		
$a = -1.51977 - 0.87744I$	$-0.53148 - 2.02988I$	$-6.98049 + 3.46410I$
$b = -1.127410 - 0.215080I$		
$u = -0.569840I$		
$a = 1.51977 - 0.87744I$	$-0.53148 + 2.02988I$	$-6.98049 - 3.46410I$
$b = -0.382348 - 0.215080I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^{12})(u^{90}+41u^{89}+\cdots-69u+1)$
c_2, c_7	$((u^2+1)^6)(u^{90}+u^{89}+\cdots+13u-1)$
c_3, c_4, c_9	$((u^6-3u^4+2u^2+1)^2)(u^{90}+u^{89}+\cdots+11u-1)$
c_5, c_8	$((u^6+u^4+2u^2+1)^2)(u^{90}-3u^{89}+\cdots-10133u+783)$
c_6, c_{11}	$((u^4-u^2+1)^3)(u^{90}+u^{89}+\cdots+9u-5)$
c_{10}	$((u^2-u+1)^6)(u^{90}+29u^{89}+\cdots+471u+25)$
c_{12}	$((u^2+u+1)^6)(u^{90}+29u^{89}+\cdots+471u+25)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^{12})(y^{90}+29y^{89}+\cdots-1117y+1)$
c_2, c_7	$((y+1)^{12})(y^{90}+41y^{89}+\cdots-69y+1)$
c_3, c_4, c_9	$((y^3-3y^2+2y+1)^4)(y^{90}-75y^{89}+\cdots-89y+1)$
c_5, c_8	$((y^3+y^2+2y+1)^4)(y^{90}+65y^{89}+\cdots-6.05836\times10^7y+613089)$
c_6, c_{11}	$((y^2-y+1)^6)(y^{90}-29y^{89}+\cdots-471y+25)$
c_{10}, c_{12}	$((y^2+y+1)^6)(y^{90}+71y^{89}+\cdots-78091y+625)$