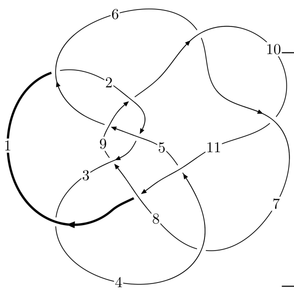
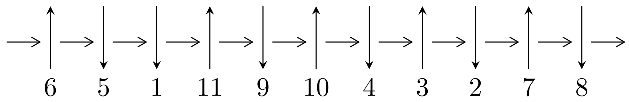
$11a_{350}$ ($K11a_{350}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -3.21880 \times 10^{22} u^{23} - 1.45306 \times 10^{23} u^{22} + \cdots + 1.84096 \times 10^{22} b - 1.77351 \times 10^{21}, \\
& 1.69641 \times 10^{22} u^{23} + 1.16788 \times 10^{23} u^{22} + \cdots + 1.84096 \times 10^{22} a + 9.02386 \times 10^{22},\ u^{24} + 5u^{23} + \cdots + 5u + 1 \\
I_2^u = \langle & -6.31384 \times 10^{394} u^{89} + 6.92476 \times 10^{394} u^{88} + \cdots + 7.51178 \times 10^{396} b - 8.98383 \times 10^{397}, \\
& - 1.55103 \times 10^{397} u^{89} - 2.32083 \times 10^{398} u^{88} + \cdots + 5.23571 \times 10^{399} a + 6.11690 \times 10^{401}, \\
& u^{90} + 13u^{88} + \cdots - 2331u - 697 \rangle \\
I_3^u = \langle & 596388417531502u^{19} - 535727113968989u^{18} + \cdots + 1506447924749558b - 1004384011943253, \\
& 1534485576412749u^{19} + 1924336217084222u^{18} + \cdots + 1506447924749558a + 5029781266974281, \\
& u^{20} + 12u^{18} + \cdots + 2u + 1 \rangle \\
I_4^u = \langle & u^3 + u^2 + b - u - 1,\ -u^3 - u^2 + a + 2u + 1,\ u^4 + u^3 - u^2 - u - 1 \rangle \\
I_5^u = \langle & b + u,\ a - u - 1,\ u^2 + u + 1 \rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 140 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.

$$I_1^u = \langle -3.22\times10^{22}u^{23} - 1.45\times10^{23}u^{22} + \cdots + 1.84\times10^{22}b - 1.77\times10^{21},\ 1.70\times10^{22}u^{23} + 1.17\times10^{23}u^{22} + \cdots + 1.84\times10^{22}a + 9.02\times10^{22},\ u^{24} + 5u^{23} + \cdots + 5u + 1\rangle$$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} -0.921482u^{23} - 6.34386u^{22} + \cdots - 16.1753u - 4.90172 \\ 1.74844u^{23} + 7.89293u^{22} + \cdots + 5.65599u + 0.0963361 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -0.803405u^{23} - 6.36897u^{22} + \cdots - 20.1230u - 6.54183 \\ 1.95379u^{23} + 9.10729u^{22} + \cdots + 8.61541u + 0.711836 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 5.52017u^{23} + 30.5886u^{22} + \cdots + 53.7538u + 10.3116 \\ -4.04248u^{23} - 19.7310u^{22} + \cdots - 22.7797u - 4.62275 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.826954u^{23} + 1.54907u^{22} + \cdots - 10.5193u - 4.80538 \\ 1.74844u^{23} + 7.89293u^{22} + \cdots + 5.65599u + 0.0963361 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.624051u^{23} + 5.42049u^{22} + \cdots + 12.4325u + 0.988234 \\ -0.853640u^{23} - 5.43714u^{22} + \cdots - 16.5416u - 4.70063 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -9.64576u^{23} - 47.9185u^{22} + \cdots - 65.9753u - 12.2608 \\ 1.74443u^{23} + 8.33782u^{22} + \cdots + 5.56945u + 0.493106 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.493106u^{23} - 0.721096u^{22} + \cdots + 15.8450u + 3.10392 \\ 1.56945u^{23} + 6.25870u^{22} + \cdots + 0.386352u - 1.03260 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 2.20692u^{23} + 13.4346u^{22} + \cdots + 38.8975u + 9.36897 \\ -1.36287u^{23} - 5.75236u^{22} + \cdots + 2.19259u + 1.11471 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 2.20692u^{23} + 13.4346u^{22} + \cdots + 38.8975u + 9.36897 \\ -1.36287u^{23} - 5.75236u^{22} + \cdots + 2.19259u + 1.11471 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{5041500610887057768350224}{1840958449106637592504 7}u^{23} + \frac{2533975755434351329384291}{18409584491066375925047}u^{22} + \cdots + \frac{2937396997691488250591708}{18409584491066375925047}u + \frac{4780430813514502054571 99}{18409584491066375925047}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{24} + 5u^{23} + \cdots + 8u + 1$
c_2, c_3	$u^{24} + 3u^{23} + \cdots + 3u + 1$
c_5, c_{11}	$u^{24} + u^{23} + \cdots + 7u + 1$
c_6, c_{10}	$u^{24} - 2u^{23} + \cdots - 106u + 36$
c_7, c_9	$u^{24} - 5u^{23} + \cdots - 5u + 1$
c_8	$u^{24} - u^{23} + \cdots + 320u + 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{24} - 7y^{23} + \cdots - 6y + 1$
c_2, c_3	$y^{24} + 3y^{23} + \cdots + 27y + 1$
c_5, c_{11}	$y^{24} + 7y^{23} + \cdots - 29y + 1$
c_6, c_{10}	$y^{24} - 12y^{23} + \cdots + 9860y + 1296$
c_7, c_9	$y^{24} - 21y^{23} + \cdots - 5y + 1$
c_8	$y^{24} - 23y^{23} + \cdots + 30720y + 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.948562 + 0.118544I$ $a = 0.386832 - 0.880975I$ $b = 0.589066 - 0.233963I$	$-2.99609 + 1.94907I$	$-10.80827 - 2.58369I$
$u = 0.948562 - 0.118544I$ $a = 0.386832 + 0.880975I$ $b = 0.589066 + 0.233963I$	$-2.99609 - 1.94907I$	$-10.80827 + 2.58369I$
$u = -0.397178 + 0.844071I$ $a = -0.65338 + 1.54955I$ $b = 0.017160 - 0.636778I$	$5.31187 + 3.98651I$	$5.66668 - 8.11376I$
$u = -0.397178 - 0.844071I$ $a = -0.65338 - 1.54955I$ $b = 0.017160 + 0.636778I$	$5.31187 - 3.98651I$	$5.66668 + 8.11376I$
$u = -0.897247 + 0.630246I$ $a = -0.175373 - 0.678747I$ $b = -0.458367 + 1.128800I$	$1.59590 + 4.68195I$	$5.09129 - 10.67393I$
$u = -0.897247 - 0.630246I$ $a = -0.175373 + 0.678747I$ $b = -0.458367 - 1.128800I$	$1.59590 - 4.68195I$	$5.09129 + 10.67393I$
$u = 0.669369 + 0.399651I$ $a = 0.199150 + 0.717971I$ $b = -1.22208 - 1.31312I$	$-0.94261 - 4.71787I$	$-11.6555 + 14.8007I$
$u = 0.669369 - 0.399651I$ $a = 0.199150 - 0.717971I$ $b = -1.22208 + 1.31312I$	$-0.94261 + 4.71787I$	$-11.6555 - 14.8007I$
$u = -0.275157 + 0.682551I$ $a = -0.34003 - 1.57031I$ $b = 1.02362 + 1.39590I$	$5.80334 + 2.74033I$	$15.5158 - 11.8363I$
$u = -0.275157 - 0.682551I$ $a = -0.34003 + 1.57031I$ $b = 1.02362 - 1.39590I$	$5.80334 - 2.74033I$	$15.5158 + 11.8363I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.284422 + 0.660333I$ $a = -0.05560 - 2.91538I$ $b = 0.124798 + 1.311920I$	$5.07438 + 1.59386I$	$2.13582 - 1.10254I$
$u = -0.284422 - 0.660333I$ $a = -0.05560 + 2.91538I$ $b = 0.124798 - 1.311920I$	$5.07438 - 1.59386I$	$2.13582 + 1.10254I$
$u = -0.913544 + 0.934068I$ $a = -0.137387 + 0.975627I$ $b = 1.23496 - 1.04677I$	$-2.20266 + 13.23270I$	$-2.28061 - 10.36959I$
$u = -0.913544 - 0.934068I$ $a = -0.137387 - 0.975627I$ $b = 1.23496 + 1.04677I$	$-2.20266 - 13.23270I$	$-2.28061 + 10.36959I$
$u = 0.219244 + 0.655965I$ $a = 0.641636 + 0.616523I$ $b = -0.138317 - 0.535445I$	$0.112664 - 1.342820I$	$0.96375 + 5.78549I$
$u = 0.219244 - 0.655965I$ $a = 0.641636 - 0.616523I$ $b = -0.138317 + 0.535445I$	$0.112664 + 1.342820I$	$0.96375 - 5.78549I$
$u = 0.95916 + 1.28491I$ $a = 0.109942 + 1.076420I$ $b = -1.19384 - 1.00053I$	$3.9513 - 19.3243I$	$0.92200 + 10.02171I$
$u = 0.95916 - 1.28491I$ $a = 0.109942 - 1.076420I$ $b = -1.19384 + 1.00053I$	$3.9513 + 19.3243I$	$0.92200 - 10.02171I$
$u = -0.315740 + 0.142853I$ $a = -1.62304 + 1.34024I$ $b = -0.873029 + 0.698246I$	$0.03065 + 2.94504I$	$-0.62404 - 2.53282I$
$u = -0.315740 - 0.142853I$ $a = -1.62304 - 1.34024I$ $b = -0.873029 - 0.698246I$	$0.03065 - 2.94504I$	$-0.62404 + 2.53282I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.99393 + 1.39275I$ $a = -0.078356 - 0.752209I$ $b = 0.690199 + 0.960956I$	$7.26188 - 10.39510I$	$4.97109 + 9.26898I$
$u = 0.99393 - 1.39275I$ $a = -0.078356 + 0.752209I$ $b = 0.690199 - 0.960956I$	$7.26188 + 10.39510I$	$4.97109 - 9.26898I$
$u = -1.80800$ $a = -0.491944$ $b = -0.412432$	0.0704593	10.7550
$u = -4.60596$ $a = -0.0568603$ $b = -0.175899$	-0.0136435	0

II. $\boldsymbol{I_2^u = \langle -6.31 \times 10^{394} u^{89} + 6.92 \times 10^{394} u^{88} + \cdots + 7.51 \times 10^{396} b - 8.98 \times 10^{397},\ -1.55 \times 10^{397} u^{89} - 2.32 \times 10^{398} u^{88} + \cdots + 5.24 \times 10^{399} a + 6.12 \times 10^{401},\ u^{90} + 13u^{88} + \cdots - 2331u - 697 \rangle}$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 0.00296240u^{89} + 0.0443270u^{88} + \cdots - 438.837u - 116.830 \\ 0.00840525u^{89} - 0.00921854u^{88} + \cdots + 35.0495u + 11.9597 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 0.00615108u^{89} + 0.0463311u^{88} + \cdots - 509.179u - 135.767 \\ 0.00721730u^{89} - 0.00830298u^{88} + \cdots + 41.9437u + 13.3565 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0981362u^{89} + 0.00893073u^{88} + \cdots - 111.972u - 57.6678 \\ -0.00924215u^{89} - 0.00377916u^{88} + \cdots + 55.6357u + 10.3743 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0113676u^{89} + 0.0351084u^{88} + \cdots - 403.788u - 104.871 \\ 0.00840525u^{89} - 0.00921854u^{88} + \cdots + 35.0495u + 11.9597 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0987547u^{89} + 0.00556089u^{88} + \cdots - 75.5358u - 48.4670 \\ 0.00862368u^{89} + 0.000409326u^{88} + \cdots - 17.1997u - 1.17357 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0318351u^{89} + 0.0633408u^{88} + \cdots - 419.152u - 85.0975 \\ 0.00355555u^{89} + 0.00998720u^{88} + \cdots - 106.546u - 27.9283 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00442432u^{89} - 0.0678970u^{88} + \cdots + 531.689u + 122.167 \\ -0.0153682u^{89} + 0.0121057u^{88} + \cdots - 37.2591u - 23.9882 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00232107u^{89} - 0.0476243u^{88} + \cdots + 401.540u + 95.0377 \\ -0.0139733u^{89} + 0.0135534u^{88} + \cdots - 50.8930u - 27.4980 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00232107u^{89} - 0.0476243u^{88} + \cdots + 401.540u + 95.0377 \\ -0.0139733u^{89} + 0.0135534u^{88} + \cdots - 50.8930u - 27.4980 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0316762u^{89} - 0.0348001u^{88} + \cdots + 220.805u + 45.4124$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{90} - 4u^{89} + \cdots - 679u - 263$
c_2, c_3	$u^{90} - u^{89} + \cdots - 675u + 103$
c_5, c_{11}	$u^{90} - 8u^{88} + \cdots - 22u - 1$
c_6, c_{10}	$(u^{45} - 20u^{43} + \cdots + 189u + 108)^2$
c_7, c_9	$u^{90} + 13u^{88} + \cdots + 2331u - 697$
c_8	$(u^{45} - 2u^{44} + \cdots - 45u - 9)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{90} - 20y^{89} + \cdots - 4190907y + 69169$
c_2, c_3	$y^{90} - 7y^{89} + \cdots + 296069y + 10609$
c_5, c_{11}	$y^{90} - 16y^{89} + \cdots - 90y + 1$
c_6, c_{10}	$(y^{45} - 40y^{44} + \cdots - 36207y - 11664)^2$
c_7, c_9	$y^{90} + 26y^{89} + \cdots + 21978055y + 485809$
c_8	$(y^{45} + 20y^{44} + \cdots + 2871y - 81)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.650238 + 0.770616I$ $a = 0.756665 + 0.325666I$ $b = -0.157441 + 0.051744I$	$0.40566 - 1.48274I$	0
$u = 0.650238 - 0.770616I$ $a = 0.756665 - 0.325666I$ $b = -0.157441 - 0.051744I$	$0.40566 + 1.48274I$	0
$u = 0.408621 + 0.900284I$ $a = 0.240008 + 0.792608I$ $b = -0.439265 - 0.984349I$	$0.40566 - 1.48274I$	0
$u = 0.408621 - 0.900284I$ $a = 0.240008 - 0.792608I$ $b = -0.439265 + 0.984349I$	$0.40566 + 1.48274I$	0
$u = 0.167555 + 0.950964I$ $a = 0.199750 + 0.931839I$ $b = 0.748689 - 1.189060I$	$2.94180 - 3.09675I$	0
$u = 0.167555 - 0.950964I$ $a = 0.199750 - 0.931839I$ $b = 0.748689 + 1.189060I$	$2.94180 + 3.09675I$	0
$u = -0.943877 + 0.072123I$ $a = 0.147334 + 0.330453I$ $b = -1.035640 + 0.455649I$	$0.30613 + 2.93570I$	0
$u = -0.943877 - 0.072123I$ $a = 0.147334 - 0.330453I$ $b = -1.035640 - 0.455649I$	$0.30613 - 2.93570I$	0
$u = 0.332333 + 0.878248I$ $a = 0.071797 - 1.263730I$ $b = -0.82943 + 1.43522I$	$5.23865 - 10.99060I$	0
$u = 0.332333 - 0.878248I$ $a = 0.071797 + 1.263730I$ $b = -0.82943 - 1.43522I$	$5.23865 + 10.99060I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.479257 + 0.791392I$ $a = -0.235215 - 0.687665I$ $b = 1.111250 + 0.451162I$	4.85797	0
$u = -0.479257 - 0.791392I$ $a = -0.235215 + 0.687665I$ $b = 1.111250 - 0.451162I$	4.85797	0
$u = -0.220217 + 0.884440I$ $a = 0.15511 + 1.68010I$ $b = -0.58091 - 1.47300I$	$6.04090 + 0.51555I$	0
$u = -0.220217 - 0.884440I$ $a = 0.15511 - 1.68010I$ $b = -0.58091 + 1.47300I$	$6.04090 - 0.51555I$	0
$u = 0.822790 + 0.362700I$ $a = -1.40778 + 1.95155I$ $b = -0.554046 - 0.042311I$	$2.29876 - 9.05121I$	0
$u = 0.822790 - 0.362700I$ $a = -1.40778 - 1.95155I$ $b = -0.554046 + 0.042311I$	$2.29876 + 9.05121I$	0
$u = -0.314482 + 1.066300I$ $a = 1.03414 - 1.04256I$ $b = -0.308181 + 0.222493I$	$3.71252 + 2.09738I$	0
$u = -0.314482 - 1.066300I$ $a = 1.03414 + 1.04256I$ $b = -0.308181 - 0.222493I$	$3.71252 - 2.09738I$	0
$u = 0.080321 + 1.117670I$ $a = -0.201246 - 0.404214I$ $b = -1.095680 + 0.447288I$	$6.00576 + 5.14134I$	0
$u = 0.080321 - 1.117670I$ $a = -0.201246 + 0.404214I$ $b = -1.095680 - 0.447288I$	$6.00576 - 5.14134I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.805949+0.810035I$ $a=-0.097220-0.859841I$ $b=-1.21296+1.00009I$	$-1.98063+6.23670I$	0
$u=-0.805949-0.810035I$ $a=-0.097220+0.859841I$ $b=-1.21296-1.00009I$	$-1.98063-6.23670I$	0
$u=0.495841+1.030740I$ $a=-0.330084-0.914528I$ $b=1.37807+0.85563I$	$0.29490-6.42715I$	0
$u=0.495841-1.030740I$ $a=-0.330084+0.914528I$ $b=1.37807-0.85563I$	$0.29490+6.42715I$	0
$u=0.844655+0.809311I$ $a=0.278227+0.876838I$ $b=-1.09471-1.01763I$	$-0.06231-4.05987I$	0
$u=0.844655-0.809311I$ $a=0.278227-0.876838I$ $b=-1.09471+1.01763I$	$-0.06231+4.05987I$	0
$u=-0.202911+0.802221I$ $a=-1.83281+0.37418I$ $b=-0.152437+0.165462I$	$5.61745+4.44792I$	$7.47292-6.68943I$
$u=-0.202911-0.802221I$ $a=-1.83281-0.37418I$ $b=-0.152437-0.165462I$	$5.61745-4.44792I$	$7.47292+6.68943I$
$u=0.512233+0.648024I$ $a=-1.50983+1.35329I$ $b=-0.486815-0.769300I$	$0.29490-6.42715I$	$2.19076+11.02163I$
$u=0.512233-0.648024I$ $a=-1.50983-1.35329I$ $b=-0.486815+0.769300I$	$0.29490+6.42715I$	$2.19076-11.02163I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.543413 + 0.608268I$ $a = -0.392565 + 0.981854I$ $b = 1.43853 - 0.71161I$	$-2.54435 - 3.08820I$	$-4.24618 + 0.I$
$u = -0.543413 - 0.608268I$ $a = -0.392565 - 0.981854I$ $b = 1.43853 + 0.71161I$	$-2.54435 + 3.08820I$	$-4.24618 + 0.I$
$u = 1.20673$ $a = 1.28610$ $b = 0.717017$	-1.80906	0
$u = -0.278683 + 0.741266I$ $a = -0.13737 + 2.72634I$ $b = 0.069665 - 1.049730I$	$6.04090 - 0.51555I$	$9.73034 + 2.24226I$
$u = -0.278683 - 0.741266I$ $a = -0.13737 - 2.72634I$ $b = 0.069665 + 1.049730I$	$6.04090 + 0.51555I$	$9.73034 - 2.24226I$
$u = 0.771121 + 0.933795I$ $a = 0.555560 + 0.322667I$ $b = -0.982231 + 0.006479I$	$-2.49917 - 2.89475I$	0
$u = 0.771121 - 0.933795I$ $a = 0.555560 - 0.322667I$ $b = -0.982231 - 0.006479I$	$-2.49917 + 2.89475I$	0
$u = 0.808260 + 0.907026I$ $a = 0.152451 + 1.230970I$ $b = -1.070580 - 0.882803I$	$-2.54435 - 3.08820I$	0
$u = 0.808260 - 0.907026I$ $a = 0.152451 - 1.230970I$ $b = -1.070580 + 0.882803I$	$-2.54435 + 3.08820I$	0
$u = 0.879902 + 0.854615I$ $a = 0.47163 - 1.38129I$ $b = 0.927006 + 0.876019I$	$-0.07742 - 6.14163I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.879902 - 0.854615I$ $a = 0.47163 + 1.38129I$ $b = 0.927006 - 0.876019I$	$-0.07742 + 6.14163I$	0
$u = -0.507872 + 0.568783I$ $a = -0.138139 - 1.370140I$ $b = -1.14598 + 0.87377I$	$-2.49917 + 2.89475I$	$-6.29512 - 4.04782I$
$u = -0.507872 - 0.568783I$ $a = -0.138139 + 1.370140I$ $b = -1.14598 - 0.87377I$	$-2.49917 - 2.89475I$	$-6.29512 + 4.04782I$
$u = 0.019987 + 0.705680I$ $a = 0.371096 + 0.660404I$ $b = 1.47903 - 0.84955I$	$5.20109 - 3.69707I$	$17.8159 + 11.7922I$
$u = 0.019987 - 0.705680I$ $a = 0.371096 - 0.660404I$ $b = 1.47903 + 0.84955I$	$5.20109 + 3.69707I$	$17.8159 - 11.7922I$
$u = -0.698365 + 0.048277I$ $a = -0.773970 - 1.130590I$ $b = -0.867504 - 0.055181I$	$-3.31934 - 1.40971I$	$-9.63872 + 4.90184I$
$u = -0.698365 - 0.048277I$ $a = -0.773970 + 1.130590I$ $b = -0.867504 + 0.055181I$	$-3.31934 + 1.40971I$	$-9.63872 - 4.90184I$
$u = 1.043390 + 0.776682I$ $a = -0.022328 - 0.666893I$ $b = 0.654441 + 0.081485I$	$-3.31934 - 1.40971I$	0
$u = 1.043390 - 0.776682I$ $a = -0.022328 + 0.666893I$ $b = 0.654441 - 0.081485I$	$-3.31934 + 1.40971I$	0
$u = -0.619879 + 1.143890I$ $a = -0.277737 + 1.211450I$ $b = 0.596383 - 0.931606I$	$5.61745 + 4.44792I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.619879-1.143890I$ $a=-0.277737-1.211450I$ $b=\ 0.596383+0.931606I$	$5.61745-4.44792I$	0
$u=\ 0.937741+0.997672I$ $a=-0.028921-0.696492I$ $b=\ 1.119420+0.654833I$	$-2.70611-5.73656I$	0
$u=\ 0.937741-0.997672I$ $a=-0.028921+0.696492I$ $b=\ 1.119420-0.654833I$	$-2.70611+5.73656I$	0
$u=-0.535466+0.312111I$ $a=\ 0.05537+2.59522I$ $b=\ 0.690775-0.155367I$	$-2.70611+5.73656I$	$-9.46948-10.34279I$
$u=-0.535466-0.312111I$ $a=\ 0.05537-2.59522I$ $b=\ 0.690775+0.155367I$	$-2.70611-5.73656I$	$-9.46948+10.34279I$
$u=\ 0.002400+0.566715I$ $a=\ 0.77472-1.75994I$ $b=\ 1.22053+0.73355I$	$3.71252-2.09738I$	$4.75808+1.45431I$
$u=\ 0.002400-0.566715I$ $a=\ 0.77472+1.75994I$ $b=\ 1.22053-0.73355I$	$3.71252+2.09738I$	$4.75808-1.45431I$
$u=\ 0.115651+0.545467I$ $a=\ 1.73050+4.15726I$ $b=\ 0.262196-0.749851I$	$3.90289+8.93089I$	$8.55811-8.07031I$
$u=\ 0.115651-0.545467I$ $a=\ 1.73050-4.15726I$ $b=\ 0.262196+0.749851I$	$3.90289-8.93089I$	$8.55811+8.07031I$
$u=-0.71086+1.28822I$ $a=\ 0.329302-1.195740I$ $b=-1.29161+0.99015I$	$3.90289+8.93089I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.71086-1.28822I$ $a=0.329302+1.195740I$ $b=-1.29161-0.99015I$	$3.90289-8.93089I$	0
$u=0.207589+0.469922I$ $a=0.440453-1.118780I$ $b=0.22781+1.73405I$	$-0.06231+4.05987I$	$8.44249+0.74405I$
$u=0.207589-0.469922I$ $a=0.440453+1.118780I$ $b=0.22781-1.73405I$	$-0.06231-4.05987I$	$8.44249-0.74405I$
$u=0.87421+1.20478I$ $a=-0.175207+0.280416I$ $b=0.516903-0.721613I$	$0.581066-0.443460I$	0
$u=0.87421-1.20478I$ $a=-0.175207-0.280416I$ $b=0.516903+0.721613I$	$0.581066+0.443460I$	0
$u=-0.96765+1.13256I$ $a=0.185823+1.017500I$ $b=0.747500-0.778618I$	$6.00576+5.14134I$	0
$u=-0.96765-1.13256I$ $a=0.185823-1.017500I$ $b=0.747500+0.778618I$	$6.00576-5.14134I$	0
$u=-1.01755+1.10772I$ $a=-0.530821+0.238018I$ $b=0.547374+0.283554I$	$-1.98063-6.23670I$	0
$u=-1.01755-1.10772I$ $a=-0.530821-0.238018I$ $b=0.547374-0.283554I$	$-1.98063+6.23670I$	0
$u=-0.89064+1.22962I$ $a=-0.162880+1.145870I$ $b=1.10718-1.02496I$	$5.23865+10.99060I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.89064 - 1.22962I$ $a = -0.162880 - 1.145870I$ $b = 1.10718 + 1.02496I$	$5.23865 - 10.99060I$	0
$u = -0.23191 + 1.52682I$ $a = -0.908745 + 0.223836I$ $b = 1.057010 - 0.093518I$	$-0.07742 + 6.14163I$	0
$u = -0.23191 - 1.52682I$ $a = -0.908745 - 0.223836I$ $b = 1.057010 + 0.093518I$	$-0.07742 - 6.14163I$	0
$u = -1.53129 + 0.40027I$ $a = -0.317759 + 0.118389I$ $b = 0.671617 + 0.211972I$	$2.94180 - 3.09675I$	0
$u = -1.53129 - 0.40027I$ $a = -0.317759 - 0.118389I$ $b = 0.671617 - 0.211972I$	$2.94180 + 3.09675I$	0
$u = -0.072897 + 0.360777I$ $a = -3.76410 - 0.79251I$ $b = -0.782879 + 0.479956I$	$0.30613 + 2.93570I$	$-3.28195 - 5.62494I$
$u = -0.072897 - 0.360777I$ $a = -3.76410 + 0.79251I$ $b = -0.782879 - 0.479956I$	$0.30613 - 2.93570I$	$-3.28195 + 5.62494I$
$u = 1.01061 + 1.30844I$ $a = -0.020694 - 0.902939I$ $b = 1.12727 + 0.93260I$	$1.78184 - 10.59480I$	0
$u = 1.01061 - 1.30844I$ $a = -0.020694 + 0.902939I$ $b = 1.12727 - 0.93260I$	$1.78184 + 10.59480I$	0
$u = -0.91660 + 1.45408I$ $a = 0.243376 - 0.843960I$ $b = -1.181200 + 0.693134I$	$2.29876 + 9.05121I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.91660 - 1.45408I$ $a = 0.243376 + 0.843960I$ $b = -1.181200 - 0.693134I$	$2.29876 - 9.05121I$	0
$u = -1.12939 + 1.35997I$ $a = 0.067763 - 0.640668I$ $b = -0.324632 + 0.690984I$	$5.20109 + 3.69707I$	0
$u = -1.12939 - 1.35997I$ $a = 0.067763 + 0.640668I$ $b = -0.324632 - 0.690984I$	$5.20109 - 3.69707I$	0
$u = 1.03662 + 1.44950I$ $a = -0.031756 + 0.678698I$ $b = -0.749926 - 0.792086I$	7.04800	0
$u = 1.03662 - 1.44950I$ $a = -0.031756 - 0.678698I$ $b = -0.749926 + 0.792086I$	7.04800	0
$u = 0.16533 + 1.80552I$ $a = 0.453269 + 0.136736I$ $b = -0.559676 - 0.331227I$	$0.581066 - 0.443460I$	0
$u = 0.16533 - 1.80552I$ $a = 0.453269 - 0.136736I$ $b = -0.559676 + 0.331227I$	$0.581066 + 0.443460I$	0
$u = -1.86135$ $a = 0.0776973$ $b = -0.886595$	-1.80906	0
$u = 1.75907 + 0.63951I$ $a = 0.258182 + 0.057089I$ $b = -0.710115 + 0.370499I$	$1.78184 + 10.59480I$	0
$u = 1.75907 - 0.63951I$ $a = 0.258182 - 0.057089I$ $b = -0.710115 - 0.370499I$	$1.78184 - 10.59480I$	0

III. $I_3^u =$
$\langle 5.96\times10^{14}u^{19}-5.36\times10^{14}u^{18}+\cdots+1.51\times10^{15}b-1.00\times10^{15},\ 1.53\times10^{15}u^{19}+1.92\times10^{15}u^{18}+\cdots+1.51\times10^{15}a+5.03\times10^{15},\ u^{20}+12u^{18}+\cdots+2u+1\rangle$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} -1.01861u^{19} - 1.27740u^{18} + \cdots - 5.07547u - 3.33884 \\ -0.395890u^{19} + 0.355623u^{18} + \cdots + 1.23689u + 0.666723 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -1.92033u^{19} - 1.39243u^{18} + \cdots - 7.41199u - 3.94951 \\ 0.119275u^{19} + 0.322928u^{18} + \cdots + 2.36868u + 0.781758 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.994920u^{19} + 0.133507u^{18} + \cdots - 3.85818u - 0.674866 \\ 1.19786u^{19} - 0.0805278u^{18} + \cdots + 2.43384u + 0.215007 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.41450u^{19} - 0.921777u^{18} + \cdots - 3.83858u - 2.67211 \\ -0.395890u^{19} + 0.355623u^{18} + \cdots + 1.23689u + 0.666723 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.582346u^{19} - 0.487299u^{18} + \cdots - 4.07779u - 1.99593 \\ 0.379409u^{19} - 0.540279u^{18} + \cdots - 0.653451u - 1.53607 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.45889u^{19} - 0.856046u^{18} + \cdots - 1.97045u - 2.21037 \\ -0.484579u^{19} + 0.200367u^{18} + \cdots - 0.958662u - 0.230371 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 2.21910u^{19} - 0.232443u^{18} + \cdots + 3.29375u - 0.788977 \\ 0.178004u^{19} - 0.943332u^{18} + \cdots - 2.46348u - 1.43324 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.23993u^{19} + 0.574971u^{18} + \cdots + 6.71591u + 2.81437 \\ 1.32381u^{19} - 0.320403u^{18} + \cdots + 1.10373u + 1.23049 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.23993u^{19} + 0.574971u^{18} + \cdots + 6.71591u + 2.81437 \\ 1.32381u^{19} - 0.320403u^{18} + \cdots + 1.10373u + 1.23049 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= \frac{235193652872256}{107603423196397}u^{19} - \frac{104114497130576}{107603423196397}u^{18} + \cdots - \frac{543023431340064}{107603423196397}u - \frac{204719139518847}{107603423196397}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - u^{19} + \cdots + 5u + 1$
c_2	$u^{20} - 3u^{19} + \cdots + 2u + 1$
c_3	$u^{20} + 3u^{19} + \cdots - 2u + 1$
c_4	$u^{20} + u^{19} + \cdots - 5u + 1$
c_5	$u^{20} + u^{18} + \cdots - u + 1$
c_6	$(u^{10} - 3u^8 + 2u^7 - 8u^5 + 9u^4 + 9u^3 - 5u^2 - 4u - 2)^2$
c_7	$u^{20} + 12u^{18} + \cdots - 2u + 1$
c_8	$u^{20} + 13u^{18} + \cdots + 366u^2 + 113$
c_9	$u^{20} + 12u^{18} + \cdots + 2u + 1$
c_{10}	$(u^{10} - 3u^8 - 2u^7 + 8u^5 + 9u^4 - 9u^3 - 5u^2 + 4u - 2)^2$
c_{11}	$u^{20} + u^{18} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{20} - 13y^{19} + \cdots + 11y + 1$
c_2, c_3	$y^{20} - 5y^{19} + \cdots - 6y + 1$
c_5, c_{11}	$y^{20} + 2y^{19} + \cdots + 19y + 1$
c_6, c_{10}	$(y^{10} - 6y^9 + \cdots + 4y + 4)^2$
c_7, c_9	$y^{20} + 24y^{19} + \cdots + 4y^2 + 1$
c_8	$(y^{10} + 13y^9 + \cdots + 366y + 113)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.758707 + 0.684264I$ $a = 0.246862 + 0.784018I$ $b = -1.17763 - 1.06321I$	$-0.28461 - 4.56548I$	$2.10704 + 11.49589I$
$u = 0.758707 - 0.684264I$ $a = 0.246862 - 0.784018I$ $b = -1.17763 + 1.06321I$	$-0.28461 + 4.56548I$	$2.10704 - 11.49589I$
$u = 0.778657 + 0.810317I$ $a = -0.307274 + 1.000250I$ $b = -0.998713 - 0.817006I$	$-2.05119 - 4.76907I$	$-4.19559 + 4.84396I$
$u = 0.778657 - 0.810317I$ $a = -0.307274 - 1.000250I$ $b = -0.998713 + 0.817006I$	$-2.05119 + 4.76907I$	$-4.19559 - 4.84396I$
$u = 0.769326 + 0.148206I$ $a = 2.31458 - 0.52403I$ $b = 0.135374 + 0.516023I$	$3.05353 - 9.22667I$	$1.88985 + 9.76468I$
$u = 0.769326 - 0.148206I$ $a = 2.31458 + 0.52403I$ $b = 0.135374 - 0.516023I$	$3.05353 + 9.22667I$	$1.88985 - 9.76468I$
$u = -0.247229 + 0.712054I$ $a = 0.21326 + 2.75893I$ $b = -0.237383 - 1.305290I$	5.18058	$1.49359 + 0.I$
$u = -0.247229 - 0.712054I$ $a = 0.21326 - 2.75893I$ $b = -0.237383 + 1.305290I$	5.18058	$1.49359 + 0.I$
$u = -0.083868 + 0.715519I$ $a = -1.48133 - 0.32850I$ $b = 0.956611 - 0.035277I$	$-2.05119 - 4.76907I$	$-4.19559 + 4.84396I$
$u = -0.083868 - 0.715519I$ $a = -1.48133 + 0.32850I$ $b = 0.956611 + 0.035277I$	$-2.05119 + 4.76907I$	$-4.19559 - 4.84396I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.021497 + 0.702286I$ $a = 0.864949 - 0.348697I$ $b = 1.123760 + 0.563516I$	$4.88933 + 3.47667I$	$-0.85068 + 1.18559I$
$u = 0.021497 - 0.702286I$ $a = 0.864949 + 0.348697I$ $b = 1.123760 - 0.563516I$	$4.88933 - 3.47667I$	$-0.85068 - 1.18559I$
$u = -0.95246 + 1.17976I$ $a = 0.041992 - 0.822669I$ $b = -0.329737 + 0.669923I$	$4.88933 + 3.47667I$	$-0.85068 + 1.18559I$
$u = -0.95246 - 1.17976I$ $a = 0.041992 + 0.822669I$ $b = -0.329737 - 0.669923I$	$4.88933 - 3.47667I$	$-0.85068 - 1.18559I$
$u = -0.82142 + 1.38988I$ $a = -0.282590 + 0.950801I$ $b = 1.22306 - 0.83679I$	$3.05353 + 9.22667I$	$1.88985 - 9.76468I$
$u = -0.82142 - 1.38988I$ $a = -0.282590 - 0.950801I$ $b = 1.22306 + 0.83679I$	$3.05353 - 9.22667I$	$1.88985 + 9.76468I$
$u = -0.344777 + 0.171189I$ $a = -1.223240 - 0.528177I$ $b = -0.56200 + 1.50084I$	$-0.28461 + 4.56548I$	$2.10704 - 11.49589I$
$u = -0.344777 - 0.171189I$ $a = -1.223240 + 0.528177I$ $b = -0.56200 - 1.50084I$	$-0.28461 - 4.56548I$	$2.10704 + 11.49589I$
$u = 0.12157 + 3.08967I$ $a = 0.1128000 - 0.0220229I$ $b = -0.133334 + 0.294644I$	0.0546371	0
$u = 0.12157 - 3.08967I$ $a = 0.1128000 + 0.0220229I$ $b = -0.133334 - 0.294644I$	0.0546371	0

IV. $\boldsymbol{I_4^u = \langle u^3 + u^2 + b - u - 1,\ -u^3 - u^2 + a + 2u + 1,\ u^4 + u^3 - u^2 - u - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^3 - 3u^2 - 8u - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.17872$ $a = -0.330349$ $b = -0.848375$	-3.68806	-12.6850
$u = -0.332924 + 0.670769I$ $a = -0.26077 - 1.86693I$ $b = 0.593691 + 1.196160I$	$5.36351 + 2.52742I$	$0.91810 - 4.26254I$
$u = -0.332924 - 0.670769I$ $a = -0.26077 + 1.86693I$ $b = 0.593691 - 1.196160I$	$5.36351 - 2.52742I$	$0.91810 + 4.26254I$
$u = -1.51288$ $a = 0.851884$ $b = 0.660993$	-0.459232	-9.15140

V. $I_5^u = \langle b + u,\ a - u - 1,\ u^2 + u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0.500000 + 0.866025I$ $b = 0.500000 - 0.866025I$	3.28987	6.00000
$u = -0.500000 - 0.866025I$ $a = 0.500000 - 0.866025I$ $b = 0.500000 + 0.866025I$	3.28987	6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^2)(u^4+u^3-2u^2-2u+1)(u^{20}-u^{19}+\cdots+5u+1)$ $\cdot(u^{24}+5u^{23}+\cdots+8u+1)(u^{90}-4u^{89}+\cdots-679u-263)$
c_2	$(u^2-u+1)(u^4-3u^3+u^2+u+1)(u^{20}-3u^{19}+\cdots+2u+1)$ $\cdot(u^{24}+3u^{23}+\cdots+3u+1)(u^{90}-u^{89}+\cdots-675u+103)$
c_3	$(u^2-u+1)(u^4+3u^3+u^2-u+1)(u^{20}+3u^{19}+\cdots-2u+1)$ $\cdot(u^{24}+3u^{23}+\cdots+3u+1)(u^{90}-u^{89}+\cdots-675u+103)$
c_4	$((u-1)^2)(u^4-u^3-2u^2+2u+1)(u^{20}+u^{19}+\cdots-5u+1)$ $\cdot(u^{24}+5u^{23}+\cdots+8u+1)(u^{90}-4u^{89}+\cdots-679u-263)$
c_5	$(u^2-u+1)(u^4+u^3+u^2-u-1)(u^{20}+u^{18}+\cdots-u+1)$ $\cdot(u^{24}+u^{23}+\cdots+7u+1)(u^{90}-8u^{88}+\cdots-22u-1)$
c_6	$u^2(u^4+u^3-2u^2-2u+1)$ $\cdot(u^{10}-3u^8+2u^7-8u^5+9u^4+9u^3-5u^2-4u-2)^2$ $\cdot(u^{24}-2u^{23}+\cdots-106u+36)(u^{45}-20u^{43}+\cdots+189u+108)^2$
c_7	$(u^2-u+1)(u^4-u^3-u^2+u-1)(u^{20}+12u^{18}+\cdots-2u+1)$ $\cdot(u^{24}-5u^{23}+\cdots-5u+1)(u^{90}+13u^{88}+\cdots+2331u-697)$
c_8	$u^4(u-1)^2(u^{20}+13u^{18}+\cdots+366u^2+113)$ $\cdot(u^{24}-u^{23}+\cdots+320u+64)(u^{45}-2u^{44}+\cdots-45u-9)^2$
c_9	$(u^2-u+1)(u^4+u^3-u^2-u-1)(u^{20}+12u^{18}+\cdots+2u+1)$ $\cdot(u^{24}-5u^{23}+\cdots-5u+1)(u^{90}+13u^{88}+\cdots+2331u-697)$
c_{10}	$u^2(u^4-u^3-2u^2+2u+1)$ $\cdot(u^{10}-3u^8-2u^7+8u^5+9u^4-9u^3-5u^2+4u-2)^2$ $\cdot(u^{24}-2u^{23}+\cdots-106u+36)(u^{45}-20u^{43}+\cdots+189u+108)^2$
c_{11}	$(u^2-u+1)(u^4-u^3+u^2+u-1)(u^{20}+u^{18}+\cdots+u+1)$ $\cdot(u^{24}+u^{23}+\cdots+7u+1)(u^{90}-8u^{88}+\cdots-22u-1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y-1)^2)(y^4-5y^3+\cdots-8y+1)(y^{20}-13y^{19}+\cdots+11y+1)$ $\cdot(y^{24}-7y^{23}+\cdots-6y+1)(y^{90}-20y^{89}+\cdots-4190907y+69169)$
c_2, c_3	$(y^2+y+1)(y^4-7y^3+9y^2+y+1)(y^{20}-5y^{19}+\cdots-6y+1)$ $\cdot(y^{24}+3y^{23}+\cdots+27y+1)(y^{90}-7y^{89}+\cdots+296069y+10609)$
c_5, c_{11}	$(y^2+y+1)(y^4+y^3+y^2-3y+1)(y^{20}+2y^{19}+\cdots+19y+1)$ $\cdot(y^{24}+7y^{23}+\cdots-29y+1)(y^{90}-16y^{89}+\cdots-90y+1)$
c_6, c_{10}	$y^2(y^4-5y^3+\cdots-8y+1)(y^{10}-6y^9+\cdots+4y+4)^2$ $\cdot(y^{24}-12y^{23}+\cdots+9860y+1296)$ $\cdot(y^{45}-40y^{44}+\cdots-36207y-11664)^2$
c_7, c_9	$(y^2+y+1)(y^4-3y^3+y^2+y+1)(y^{20}+24y^{19}+\cdots+4y^2+1)$ $\cdot(y^{24}-21y^{23}+\cdots-5y+1)$ $\cdot(y^{90}+26y^{89}+\cdots+21978055y+485809)$
c_8	$y^4(y-1)^2(y^{10}+13y^9+\cdots+366y+113)^2$ $\cdot(y^{24}-23y^{23}+\cdots+30720y+4096)$ $\cdot(y^{45}+20y^{44}+\cdots+2871y-81)^2$