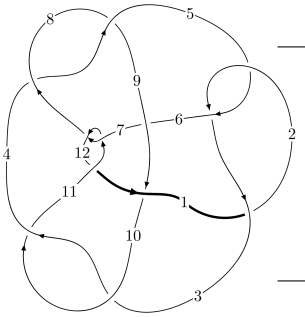
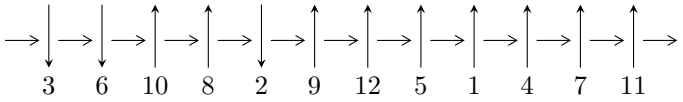
$12a_{0430}$ $(K12a_{0430})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -226485u^{38} - 3774546u^{37} + \cdots + 128b + 9282560,$$
$$\quad -259737u^{38} - 4524309u^{37} + \cdots + 128a + 21477568,\ 3u^{39} + 54u^{38} + \cdots - 3328u - 256\rangle$$
$$I_2^u = \langle -2.26053 \times 10^{100}a^{15}u^5 - 8.64840 \times 10^{100}a^{14}u^5 + \cdots - 6.68918 \times 10^{103}a + 2.14623 \times 10^{103},$$
$$\quad -a^{15}u^5 - 4a^{14}u^5 + \cdots + 148a - 22,\ u^6 - u^5 - u^4 + 2u^3 - u + 1\rangle$$
$$I_3^u = \langle -15u^{24} + 21u^{23} + \cdots + b - 8,\ 3u^{24} - 24u^{23} + \cdots + a - 14,\ 3u^{25} - 3u^{24} + \cdots - 3u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 160 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.

$$\boldsymbol{I_1^u = \langle -2.26\times 10^5 u^{38} - 3.77\times 10^6 u^{37} + \cdots + 128b + 9.28\times 10^6,\ -2.60\times 10^5 u^{38} - 4.52\times 10^6 u^{37} + \cdots + 128a + 2.15\times 10^7,\ 3u^{39} + 54u^{38} + \cdots - 3328u - 256\rangle}$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 2029.20u^{38} + 35346.2u^{37} + \cdots - 2.07355\times 10^6 u - 167794. \\ 1769.41u^{38} + 29488.6u^{37} + \cdots - 948125.u - 72520 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -331.617u^{38} - 4854.02u^{37} + \cdots - 183199.u - 16803.5 \\ 735.914u^{38} + 13795.5u^{37} + \cdots - 1.40161\times 10^6 u - 117322 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -192.527u^{38} - 3285.52u^{37} + \cdots + 155737u + 12492 \\ -103.242u^{38} - 1653.28u^{37} + \cdots + 17861u + 1071 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1538.92u^{38} + 26366.7u^{37} + \cdots - 1.44956\times 10^6 u - 117071 \\ 491.273u^{38} + 7452.33u^{37} + \cdots + 335799u + 32963 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -12.5508u^{38} - 125.672u^{37} + \cdots - 42277u - 3681 \\ 176.977u^{38} + 3108.84u^{37} + \cdots - 197757u - 16173 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -178.898u^{38} - 3179.23u^{37} + \cdots + 235641.u + 19456.5 \\ -630.586u^{38} - 10679.0u^{37} + \cdots + 481986.u + 38544 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 271.324u^{38} + 4657.66u^{37} + \cdots - 232931.u - 18469 \\ -293.344u^{38} - 4981.59u^{37} + \cdots + 278367u + 22919 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1755}{16}u^{38} + \frac{77211}{16}u^{37} + \cdots - 2255734u - 193986$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$9(9u^{39}+114u^{38}+\cdots+111616u+4096)$
c_2, c_5	$3(3u^{39}+48u^{38}+\cdots-480u-64)$
c_3, c_4, c_8 c_{10}	$u^{39}+2u^{38}+\cdots+2u-1$
c_6, c_9	$u^{39}+2u^{38}+\cdots-33u-9$
c_7, c_{11}	$3(3u^{39}+54u^{38}+\cdots-3328u-256)$
c_{12}	$9(9u^{39}-132u^{38}+\cdots+262144u-65536)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$81(81y^{39}+3006y^{38}+\cdots+5.78080\times10^{9}y-1.67772\times10^{7})$
c_2, c_5	$9(9y^{39}-114y^{38}+\cdots+111616y-4096)$
c_3, c_4, c_8 c_{10}	$y^{39}-26y^{38}+\cdots+52y^{2}-1$
c_6, c_9	$y^{39}+36y^{37}+\cdots+315y-81$
c_7, c_{11}	$9(9y^{39}-132y^{38}+\cdots+262144y-65536)$
c_{12}	$81(81y^{39}+2196y^{38}+\cdots-6.33508\times10^{10}y-4.29497\times10^{9})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.227307+0.954019I$ $a=\ \ 0.597619+0.748299I$ $b=\ \ 1.038240+0.501550I$	$-1.54560+5.89382I$	0
$u=-0.227307-0.954019I$ $a=\ \ 0.597619-0.748299I$ $b=\ \ 1.038240-0.501550I$	$-1.54560-5.89382I$	0
$u=\ \ 0.964633+0.040613I$ $a=\ \ 0.046717-0.361973I$ $b=-0.131521+0.679839I$	$2.24733+2.31700I$	0
$u=\ \ 0.964633-0.040613I$ $a=\ \ 0.046717+0.361973I$ $b=-0.131521-0.679839I$	$2.24733-2.31700I$	0
$u=-0.372084+0.971347I$ $a=\ \ 1.033870+0.676185I$ $b=\ \ 1.38505+0.53905I$	$5.0495+13.3788I$	0
$u=-0.372084-0.971347I$ $a=\ \ 1.033870-0.676185I$ $b=\ \ 1.38505-0.53905I$	$5.0495-13.3788I$	0
$u=-0.366389+0.997959I$ $a=-0.972711-0.584875I$ $b=-1.35053-0.45887I$	$6.51433+7.15268I$	0
$u=-0.366389-0.997959I$ $a=-0.972711+0.584875I$ $b=-1.35053+0.45887I$	$6.51433-7.15268I$	0
$u=-0.756872+0.753122I$ $a=\ \ 0.171567-0.831323I$ $b=\ \ 0.450531-0.558117I$	$-4.96051-3.11579I$	0
$u=-0.756872-0.753122I$ $a=\ \ 0.171567+0.831323I$ $b=\ \ 0.450531+0.558117I$	$-4.96051+3.11579I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.734478+0.548916I$ $a=\ \ 0.333438+1.221500I$ $b=-0.148939+0.692095I$	$-1.30683-1.81941I$	0
$u=-0.734478-0.548916I$ $a=\ \ 0.333438-1.221500I$ $b=-0.148939-0.692095I$	$-1.30683+1.81941I$	0
$u=-0.928656+0.581070I$ $a=\ \ 0.840210+0.897302I$ $b=-0.107640+0.780975I$	$-0.67233-2.69467I$	0
$u=-0.928656-0.581070I$ $a=\ \ 0.840210-0.897302I$ $b=-0.107640-0.780975I$	$-0.67233+2.69467I$	0
$u=-0.624790+0.647653I$ $a=-0.042755-1.321680I$ $b=\ \ 0.185681-0.871131I$	$-2.58514+2.46966I$	0
$u=-0.624790-0.647653I$ $a=-0.042755+1.321680I$ $b=\ \ 0.185681+0.871131I$	$-2.58514-2.46966I$	0
$u=-0.964236+0.626940I$ $a=-1.015610-0.669350I$ $b=-0.044585-0.877355I$	$-1.61000-7.43824I$	0
$u=-0.964236-0.626940I$ $a=-1.015610+0.669350I$ $b=-0.044585+0.877355I$	$-1.61000+7.43824I$	0
$u=-0.927448+0.731334I$ $a=-0.603265-0.055544I$ $b=-0.328521-0.410615I$	$-4.48122-2.48257I$	0
$u=-0.927448-0.731334I$ $a=-0.603265+0.055544I$ $b=-0.328521+0.410615I$	$-4.48122+2.48257I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.762524+1.065990I$ $a=\ \ 0.664275-0.398822I$ $b=\ \ 1.098350-0.153624I$	$2.59371-7.58190I$	0
$u=-0.762524-1.065990I$ $a=\ \ 0.664275+0.398822I$ $b=\ \ 1.098350+0.153624I$	$2.59371+7.58190I$	0
$u=-1.185980+0.646068I$ $a=\ \ 0.29852+1.74270I$ $b=-1.48593+0.60763I$	$7.5533-19.2427I$	0
$u=-1.185980-0.646068I$ $a=\ \ 0.29852-1.74270I$ $b=-1.48593-0.60763I$	$7.5533+19.2427I$	0
$u=\ \ 1.353110+0.111837I$ $a=\ \ 0.430891-0.154226I$ $b=-1.43049+0.31053I$	$11.2642-9.8374I$	0
$u=\ \ 1.353110-0.111837I$ $a=\ \ 0.430891+0.154226I$ $b=-1.43049-0.31053I$	$11.2642+9.8374I$	0
$u=-1.196030+0.650742I$ $a=-0.24811-1.65622I$ $b=\ \ 1.45343-0.53779I$	$9.0791-13.1009I$	0
$u=-1.196030-0.650742I$ $a=-0.24811+1.65622I$ $b=\ \ 1.45343+0.53779I$	$9.0791+13.1009I$	0
$u=-1.219640+0.610960I$ $a=\ \ 0.47514+1.44470I$ $b=-1.220300+0.570071I$	$1.42407-11.55540I$	0
$u=-1.219640-0.610960I$ $a=\ \ 0.47514-1.44470I$ $b=-1.220300-0.570071I$	$1.42407+11.55540I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618970$ $a = 0.307729$ $b = -0.308374$	0.781004	13.6700
$u = 1.390700 + 0.097502I$ $a = -0.412188 + 0.110529I$ $b = 1.40725 - 0.21446I$	$12.91450 - 3.41864I$	0
$u = 1.390700 - 0.097502I$ $a = -0.412188 - 0.110529I$ $b = 1.40725 + 0.21446I$	$12.91450 + 3.41864I$	0
$u = -0.308955 + 0.457236I$ $a = 0.037151 + 1.410890I$ $b = 0.262188 + 0.589702I$	$-1.54604 - 1.25973I$	$-0.64918 + 1.74705I$
$u = -0.308955 - 0.457236I$ $a = 0.037151 - 1.410890I$ $b = 0.262188 - 0.589702I$	$-1.54604 + 1.25973I$	$-0.64918 - 1.74705I$
$u = -1.30091 + 0.66769I$ $a = -0.221488 - 1.116460I$ $b = 1.182050 - 0.297560I$	$7.13968 - 7.57891I$	0
$u = -1.30091 - 0.66769I$ $a = -0.221488 + 1.116460I$ $b = 1.182050 + 0.297560I$	$7.13968 + 7.57891I$	0
$u = -1.14163 + 1.26414I$ $a = -0.317136 + 0.372699I$ $b = -1.060120 + 0.020872I$	$3.53048 - 0.08358I$	0
$u = -1.14163 - 1.26414I$ $a = -0.317136 - 0.372699I$ $b = -1.060120 - 0.020872I$	$3.53048 + 0.08358I$	0

II. $\boldsymbol{I_2^u = \langle -2.26 \times 10^{100} a^{15} u^5 - 8.65 \times 10^{100} a^{14} u^5 + \cdots - 6.69 \times 10^{103} a + 2.15 \times 10^{103},\ -a^{15} u^5 - 4a^{14} u^5 + \cdots + 148a - 22,\ u^6 - u^5 - u^4 + 2u^3 - u + 1 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} a \\ 0.000688597a^{15}u^5 + 0.00263445a^{14}u^5 + \cdots + 2.03764a - 0.653779 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.00313715a^{15}u^5 - 0.00342694a^{14}u^5 + \cdots + 1.99577a - 1.83014 \\ -0.00537123a^{15}u^5 - 0.00760671a^{14}u^5 + \cdots + 2.66259a - 2.49184 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -0.00523647a^{15}u^5 + 0.0120349a^{14}u^5 + \cdots - 0.800101a + 1.31324 \\ -0.00890304a^{15}u^5 + 0.0103711a^{14}u^5 + \cdots - 1.97931a + 2.35126 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0117502a^{15}u^5 + 0.00137900a^{14}u^5 + \cdots - 2.84927a + 0.113383 \\ -0.00974387a^{15}u^5 - 0.00897497a^{14}u^5 + \cdots + 0.180125a - 0.421905 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00542664a^{15}u^5 - 0.00762435a^{14}u^5 + \cdots - 1.77760a + 0.921213 \\ -0.0117791a^{15}u^5 + 0.00831537a^{14}u^5 + \cdots - 1.12189a + 2.39887 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0112446a^{15}u^5 + 0.0123645a^{14}u^5 + \cdots - 0.930856a + 0.943314 \\ -0.0110795a^{15}u^5 + 0.0104171a^{14}u^5 + \cdots - 0.0509322a + 1.85176 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00265406a^{15}u^5 + 0.0238549a^{14}u^5 + \cdots - 1.23361a + 1.24330 \\ -0.000235788a^{15}u^5 + 0.000105668a^{14}u^5 + \cdots - 0.856035a - 0.131508 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0278817a^{15}u^5 - 0.0697523a^{14}u^5 + \cdots - 10.0876a + 4.79726$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)^{12}$
c_2, c_5	$(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)^{12}$
c_3, c_4, c_8 c_{10}	$u^{96}-u^{95}+\cdots-369170u+47717$
c_6, c_9	$u^{96}+9u^{95}+\cdots+2219032u+215401$
c_7, c_{11}	$(u^6-u^5-u^4+2u^3-u+1)^{16}$
c_{12}	$(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^{16}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)^{12}$
c_2, c_5	$(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)^{12}$
c_3, c_4, c_8 c_{10}	$y^{96}-81y^{95}+\cdots-141748367588y+2276912089$
c_6, c_9	$y^{96}-33y^{95}+\cdots-549152756700y+46397590801$
c_7, c_{11}	$(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^{16}$
c_{12}	$(y^6+y^5+5y^4+6y^2+3y+1)^{16}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=-0.131228+0.966452I$ $b=-1.92108-0.43745I$	$8.98482+1.65419I$	$17.4396-2.7737I$
$u=-1.002190+0.295542I$ $a=-0.920754-0.485414I$ $b=-0.852601-0.969355I$	$5.78475+0.20693I$	$14.3015+0.2834I$
$u=-1.002190+0.295542I$ $a=-0.072117-1.131480I$ $b=\ \ 1.96950+0.26401I$	$8.98482-3.50280I$	$17.4396+4.3622I$
$u=-1.002190+0.295542I$ $a=-0.284942-1.232200I$ $b=-0.640395-0.185153I$	$5.78475-2.05554I$	$14.3015+1.3050I$
$u=-1.002190+0.295542I$ $a=-0.970327-0.812295I$ $b=\ \ 1.53611+0.03337I$	$5.98037-0.92430I$	$9.82225+0.79423I$
$u=-1.002190+0.295542I$ $a=\ \ 1.180110+0.543505I$ $b=\ \ 0.724178+1.195600I$	$4.44573+5.51923I$	$12.28827-4.49994I$
$u=-1.002190+0.295542I$ $a=\ \ 1.329820-0.337134I$ $b=-1.42647-0.01572I$	$8.98482-3.50280I$	$17.4396+4.3622I$
$u=-1.002190+0.295542I$ $a=\ \ 0.96287+1.09375I$ $b=\ \ 0.278148+0.719400I$	$0.322677-0.924305I$	$7.85268+0.79423I$
$u=-1.002190+0.295542I$ $a=-1.49099+0.08573I$ $b=\ \ 1.47063+0.04551I$	$8.98482+1.65419I$	$17.4396-2.7737I$
$u=-1.002190+0.295542I$ $a=\ \ 0.38868+1.53392I$ $b=\ \ 0.450129+0.033041I$	$4.44573-7.36784I$	$12.28827+6.08840I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190+0.295542I$ $a=\ \ 0.188568-0.080838I$ $b=-1.337560-0.341469I$	$5.98037-0.92430I$	$9.82225+0.79423I$
$u=-1.002190+0.295542I$ $a=-1.18748-1.49401I$ $b=\ \ 1.324260-0.484048I$	$5.78475-2.05554I$	$14.3015+1.3050I$
$u=-1.002190+0.295542I$ $a=\ \ 1.24714+1.57460I$ $b=-1.23357+0.71721I$	$4.44573-7.36784I$	$12.28827+6.08840I$
$u=-1.002190+0.295542I$ $a=\ \ 1.34882+1.54727I$ $b=-0.865270+0.191673I$	$0.322677-0.924305I$	$7.85268+0.79423I$
$u=-1.002190+0.295542I$ $a=-1.58649-1.33501I$ $b=\ \ 1.179490+0.070105I$	$5.78475+0.20693I$	$14.3015+0.2834I$
$u=-1.002190+0.295542I$ $a=\ \ 1.68445+1.48950I$ $b=-1.083740-0.172180I$	$4.44573+5.51923I$	$12.28827-4.49994I$
$u=-1.002190-0.295542I$ $a=-0.131228-0.966452I$ $b=-1.92108+0.43745I$	$8.98482-1.65419I$	$17.4396+2.7737I$
$u=-1.002190-0.295542I$ $a=-0.920754+0.485414I$ $b=-0.852601+0.969355I$	$5.78475-0.20693I$	$14.3015-0.2834I$
$u=-1.002190-0.295542I$ $a=-0.072117+1.131480I$ $b=\ \ 1.96950-0.26401I$	$8.98482+3.50280I$	$17.4396-4.3622I$
$u=-1.002190-0.295542I$ $a=-0.284942+1.232200I$ $b=-0.640395+0.185153I$	$5.78475+2.05554I$	$14.3015-1.3050I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190-0.295542I$ $a=-0.970327+0.812295I$ $b=\ \ 1.53611-0.03337I$	$5.98037+0.92430I$	$9.82225-0.79423I$
$u=-1.002190-0.295542I$ $a=\ \ 1.180110-0.543505I$ $b=\ \ 0.724178-1.195600I$	$4.44573-5.51923I$	$12.28827+4.49994I$
$u=-1.002190-0.295542I$ $a=\ \ 1.329820+0.337134I$ $b=-1.42647+0.01572I$	$8.98482+3.50280I$	$17.4396-4.3622I$
$u=-1.002190-0.295542I$ $a=\ \ 0.96287-1.09375I$ $b=\ \ 0.278148-0.719400I$	$0.322677+0.924305I$	$7.85268-0.79423I$
$u=-1.002190-0.295542I$ $a=-1.49099-0.08573I$ $b=\ \ 1.47063-0.04551I$	$8.98482-1.65419I$	$17.4396+2.7737I$
$u=-1.002190-0.295542I$ $a=\ \ 0.38868-1.53392I$ $b=\ \ 0.450129-0.033041I$	$4.44573+7.36784I$	$12.28827-6.08840I$
$u=-1.002190-0.295542I$ $a=\ \ 0.188568+0.080838I$ $b=-1.337560+0.341469I$	$5.98037+0.92430I$	$9.82225-0.79423I$
$u=-1.002190-0.295542I$ $a=-1.18748+1.49401I$ $b=\ \ 1.324260+0.484048I$	$5.78475+2.05554I$	$14.3015-1.3050I$
$u=-1.002190-0.295542I$ $a=\ \ 1.24714-1.57460I$ $b=-1.23357-0.71721I$	$4.44573+7.36784I$	$12.28827-6.08840I$
$u=-1.002190-0.295542I$ $a=\ \ 1.34882-1.54727I$ $b=-0.865270-0.191673I$	$0.322677+0.924305I$	$7.85268-0.79423I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.002190-0.295542I$ $a=-1.58649+1.33501I$ $b=\ \ 1.179490-0.070105I$	$5.78475-0.20693I$	$14.3015-0.2834I$
$u=-1.002190-0.295542I$ $a=\ \ 1.68445-1.48950I$ $b=-1.083740+0.172180I$	$4.44573-5.51923I$	$12.28827+4.49994I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.338368-0.856179I$ $b=\ \ 1.220680-0.477407I$	$0.66452-7.36784I$	$4.85484+6.08840I$
$u=\ \ 0.428243+0.664531I$ $a=-0.495098+0.691509I$ $b=-1.206330+0.367263I$	$2.00354-2.05554I$	$6.86806+1.30502I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.714452-0.421331I$ $b=-0.217102+0.071087I$	$2.00354+0.20693I$	$6.86806+0.28344I$
$u=\ \ 0.428243+0.664531I$ $a=-0.512773-0.573888I$ $b=-1.044990-0.150675I$	$2.00354+0.20693I$	$6.86806+0.28344I$
$u=\ \ 0.428243+0.664531I$ $a=\ \ 0.475180+1.143100I$ $b=\ \ 1.061230+0.489637I$	$0.66452+5.51923I$	$4.85484-4.49994I$
$u=\ \ 0.428243+0.664531I$ $a=-0.691630-0.012427I$ $b=\ \ 0.370476-0.414858I$	$0.66452+5.51923I$	$4.85484-4.49994I$
$u=\ \ 0.428243+0.664531I$ $a=-1.290680+0.422211I$ $b=-1.230390+0.212303I$	$2.19916-0.92430I$	$2.38882+0.79423I$
$u=\ \ 0.428243+0.664531I$ $a=-0.021113-0.454124I$ $b=\ \ 0.928150-0.448492I$	$-3.45853-0.92430I$	$0.419245+0.794226I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 + 0.664531I$ $a = -0.45184 + 1.50268I$ $b = 0.445858 + 0.853680I$	$-3.45853 - 0.92430I$	$0.419245 + 0.794226I$
$u = 0.428243 + 0.664531I$ $a = -1.42972 + 0.79073I$ $b = -1.201220 - 0.073274I$	$5.20361 - 3.50280I$	$10.00621 + 4.36218I$
$u = 0.428243 + 0.664531I$ $a = 1.45063 - 0.77681I$ $b = 0.765736 - 0.349328I$	$2.19916 - 0.92430I$	$2.38882 + 0.79423I$
$u = 0.428243 + 0.664531I$ $a = 1.48375 - 0.73194I$ $b = 1.090890 + 0.140025I$	$5.20361 + 1.65419I$	$10.00621 - 2.77373I$
$u = 0.428243 + 0.664531I$ $a = 1.10763 - 1.50141I$ $b = 0.103004 - 0.985223I$	$2.00354 - 2.05554I$	$6.86806 + 1.30502I$
$u = 0.428243 + 0.664531I$ $a = -1.04266 + 1.76681I$ $b = 0.022518 + 1.191450I$	$0.66452 - 7.36784I$	$4.85484 + 6.08840I$
$u = 0.428243 + 0.664531I$ $a = -2.01816 + 0.39141I$ $b = -1.42014 + 0.57718I$	$5.20361 + 1.65419I$	$10.00621 - 2.77373I$
$u = 0.428243 + 0.664531I$ $a = 2.03871 - 0.61553I$ $b = 1.31381 - 0.70782I$	$5.20361 - 3.50280I$	$10.00621 + 4.36218I$
$u = 0.428243 - 0.664531I$ $a = 0.338368 + 0.856179I$ $b = 1.220680 + 0.477407I$	$0.66452 + 7.36784I$	$4.85484 - 6.08840I$
$u = 0.428243 - 0.664531I$ $a = -0.495098 - 0.691509I$ $b = -1.206330 - 0.367263I$	$2.00354 + 2.05554I$	$6.86806 - 1.30502I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 - 0.664531I$ $a = 0.714452 + 0.421331I$ $b = -0.217102 - 0.071087I$	$2.00354 - 0.20693I$	$6.86806 - 0.28344I$
$u = 0.428243 - 0.664531I$ $a = -0.512773 + 0.573888I$ $b = -1.044990 + 0.150675I$	$2.00354 - 0.20693I$	$6.86806 - 0.28344I$
$u = 0.428243 - 0.664531I$ $a = 0.475180 - 1.143100I$ $b = 1.061230 - 0.489637I$	$0.66452 - 5.51923I$	$4.85484 + 4.49994I$
$u = 0.428243 - 0.664531I$ $a = -0.691630 + 0.012427I$ $b = 0.370476 + 0.414858I$	$0.66452 - 5.51923I$	$4.85484 + 4.49994I$
$u = 0.428243 - 0.664531I$ $a = -1.290680 - 0.422211I$ $b = -1.230390 - 0.212303I$	$2.19916 + 0.92430I$	$2.38882 - 0.79423I$
$u = 0.428243 - 0.664531I$ $a = -0.021113 + 0.454124I$ $b = 0.928150 + 0.448492I$	$-3.45853 + 0.92430I$	$0.419245 - 0.794226I$
$u = 0.428243 - 0.664531I$ $a = -0.45184 - 1.50268I$ $b = 0.445858 - 0.853680I$	$-3.45853 + 0.92430I$	$0.419245 - 0.794226I$
$u = 0.428243 - 0.664531I$ $a = -1.42972 - 0.79073I$ $b = -1.201220 + 0.073274I$	$5.20361 + 3.50280I$	$10.00621 - 4.36218I$
$u = 0.428243 - 0.664531I$ $a = 1.45063 + 0.77681I$ $b = 0.765736 + 0.349328I$	$2.19916 + 0.92430I$	$2.38882 - 0.79423I$
$u = 0.428243 - 0.664531I$ $a = 1.48375 + 0.73194I$ $b = 1.090890 - 0.140025I$	$5.20361 - 1.65419I$	$10.00621 + 2.77373I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.428243 - 0.664531I$ $a = 1.10763 + 1.50141I$ $b = 0.103004 + 0.985223I$	$2.00354 + 2.05554I$	$6.86806 - 1.30502I$
$u = 0.428243 - 0.664531I$ $a = -1.04266 - 1.76681I$ $b = 0.022518 - 1.191450I$	$0.66452 + 7.36784I$	$4.85484 - 6.08840I$
$u = 0.428243 - 0.664531I$ $a = -2.01816 - 0.39141I$ $b = -1.42014 - 0.57718I$	$5.20361 - 1.65419I$	$10.00621 + 2.77373I$
$u = 0.428243 - 0.664531I$ $a = 2.03871 + 0.61553I$ $b = 1.31381 + 0.70782I$	$5.20361 + 3.50280I$	$10.00621 - 4.36218I$
$u = 1.073950 + 0.558752I$ $a = -0.664094 + 0.668228I$ $b = -0.295117 + 1.104200I$	$-1.56793 + 5.69302I$	$4.13596 - 5.51057I$
$u = 1.073950 + 0.558752I$ $a = -0.193047 + 1.198190I$ $b = 1.315860 + 0.064316I$	$3.89415 + 4.56179I$	$10.58478 - 4.99978I$
$u = 1.073950 + 0.558752I$ $a = -0.111947 - 0.724388I$ $b = 0.101611 - 0.435249I$	$3.89415 + 4.56179I$	$10.58478 - 4.99978I$
$u = 1.073950 + 0.558752I$ $a = 0.081352 - 0.699474I$ $b = -1.105270 + 0.161393I$	$2.55512 - 0.75052I$	$8.57155 - 0.21640I$
$u = 1.073950 + 0.558752I$ $a = 0.717274 - 1.217360I$ $b = -0.226353 - 1.304860I$	$3.89415 + 6.82425I$	$10.58478 - 6.02136I$
$u = 1.073950 + 0.558752I$ $a = -0.93532 + 1.14301I$ $b = 0.08300 + 1.50716I$	$2.55512 + 12.13660I$	$8.57155 - 10.80474I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 + 0.558752I$ $a = 0.88186 - 1.26823I$ $b = -1.177270 - 0.338145I$	$-1.56793 + 5.69302I$	$4.13596 - 5.51057I$
$u = 1.073950 + 0.558752I$ $a = 0.270195 + 0.166091I$ $b = -0.506146 + 0.241762I$	$2.55512 - 0.75052I$	$8.57155 - 0.21640I$
$u = 1.073950 + 0.558752I$ $a = 0.10508 - 1.69146I$ $b = -0.867965 - 0.637909I$	$4.08977 + 5.69302I$	$6.10554 - 5.51057I$
$u = 1.073950 + 0.558752I$ $a = -0.17872 + 1.89437I$ $b = 1.36589 + 0.37885I$	$4.08977 + 5.69302I$	$6.10554 - 5.51057I$
$u = 1.073950 + 0.558752I$ $a = -0.78717 + 1.77649I$ $b = 1.343660 + 0.357004I$	$3.89415 + 6.82425I$	$10.58478 - 6.02136I$
$u = 1.073950 + 0.558752I$ $a = 1.00771 - 1.77771I$ $b = -1.338020 - 0.418979I$	$2.55512 + 12.13660I$	$8.57155 - 10.80474I$
$u = 1.073950 + 0.558752I$ $a = -0.11963 + 2.06380I$ $b = 1.62571 + 0.82625I$	$7.09422 + 3.11453I$	$13.72292 - 1.94261I$
$u = 1.073950 + 0.558752I$ $a = 0.23274 - 2.06246I$ $b = -1.50878 - 0.98090I$	$7.09422 + 8.27152I$	$13.7229 - 9.0785I$
$u = 1.073950 + 0.558752I$ $a = -0.22467 - 2.13523I$ $b = -1.091960 - 0.083854I$	$7.09422 + 3.11453I$	$13.72292 - 1.94261I$
$u = 1.073950 + 0.558752I$ $a = 0.07723 + 2.22849I$ $b = 1.207190 + 0.117716I$	$7.09422 + 8.27152I$	$13.7229 - 9.0785I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$ $a = -0.664094 - 0.668228I$ $b = -0.295117 - 1.104200I$	$-1.56793 - 5.69302I$	$4.13596 + 5.51057I$
$u = 1.073950 - 0.558752I$ $a = -0.193047 - 1.198190I$ $b = 1.315860 - 0.064316I$	$3.89415 - 4.56179I$	$10.58478 + 4.99978I$
$u = 1.073950 - 0.558752I$ $a = -0.111947 + 0.724388I$ $b = 0.101611 + 0.435249I$	$3.89415 - 4.56179I$	$10.58478 + 4.99978I$
$u = 1.073950 - 0.558752I$ $a = 0.081352 + 0.699474I$ $b = -1.105270 - 0.161393I$	$2.55512 + 0.75052I$	$8.57155 + 0.21640I$
$u = 1.073950 - 0.558752I$ $a = 0.717274 + 1.217360I$ $b = -0.226353 + 1.304860I$	$3.89415 - 6.82425I$	$10.58478 + 6.02136I$
$u = 1.073950 - 0.558752I$ $a = -0.93532 - 1.14301I$ $b = 0.08300 - 1.50716I$	$2.55512 - 12.13660I$	$8.57155 + 10.80474I$
$u = 1.073950 - 0.558752I$ $a = 0.88186 + 1.26823I$ $b = -1.177270 + 0.338145I$	$-1.56793 - 5.69302I$	$4.13596 + 5.51057I$
$u = 1.073950 - 0.558752I$ $a = 0.270195 - 0.166091I$ $b = -0.506146 - 0.241762I$	$2.55512 + 0.75052I$	$8.57155 + 0.21640I$
$u = 1.073950 - 0.558752I$ $a = 0.10508 + 1.69146I$ $b = -0.867965 + 0.637909I$	$4.08977 - 5.69302I$	$6.10554 + 5.51057I$
$u = 1.073950 - 0.558752I$ $a = -0.17872 - 1.89437I$ $b = 1.36589 - 0.37885I$	$4.08977 - 5.69302I$	$6.10554 + 5.51057I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.073950 - 0.558752I$ $a = -0.78717 - 1.77649I$ $b = 1.343660 - 0.357004I$	$3.89415 - 6.82425I$	$10.58478 + 6.02136I$
$u = 1.073950 - 0.558752I$ $a = 1.00771 + 1.77771I$ $b = -1.338020 + 0.418979I$	$2.55512 - 12.13660I$	$8.57155 + 10.80474I$
$u = 1.073950 - 0.558752I$ $a = -0.11963 - 2.06380I$ $b = 1.62571 - 0.82625I$	$7.09422 - 3.11453I$	$13.72292 + 1.94261I$
$u = 1.073950 - 0.558752I$ $a = 0.23274 + 2.06246I$ $b = -1.50878 + 0.98090I$	$7.09422 - 8.27152I$	$13.7229 + 9.0785I$
$u = 1.073950 - 0.558752I$ $a = -0.22467 + 2.13523I$ $b = -1.091960 + 0.083854I$	$7.09422 - 3.11453I$	$13.72292 + 1.94261I$
$u = 1.073950 - 0.558752I$ $a = 0.07723 - 2.22849I$ $b = 1.207190 - 0.117716I$	$7.09422 - 8.27152I$	$13.7229 + 9.0785I$

III. $I_3^u =$
$\langle -15u^{24}+21u^{23}+\cdots+b-8,\ 3u^{24}-24u^{23}+\cdots+a-14,\ 3u^{25}-3u^{24}+\cdots-3u+1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -3u^{24} + 24u^{23} + \cdots - 8u + 14 \\ 15u^{24} - 21u^{23} + \cdots - 11u + 8 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 3u^{24} - 9u^{23} + \cdots - 31u + 19 \\ 12u^{24} - 33u^{23} + \cdots - 5u + 4 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 3u^{24} + 3u^{23} + \cdots + 4u + 3 \\ 3u^{23} - 16u^{21} + \cdots - 2u^2 + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 33u^{24} - 6u^{23} + \cdots + 61u - 23 \\ 48u^{23} - 69u^{22} + \cdots + 28u - 9 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 3u^{23} - 19u^{21} + \cdots + 4u + 2 \\ 3u^{23} - 3u^{22} + \cdots + 2u^2 + 2u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 6u^{24} - 15u^{23} + \cdots - 5u - 3 \\ -9u^{23} + 12u^{22} + \cdots + 6u - 2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -21u^{24} - 9u^{23} + \cdots + 9u^2 - 2 \\ 3u^{24} + 9u^{23} + \cdots + 8u - 6 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 126u^{24} - 102u^{23} - 699u^{22} + 541u^{21} + 2172u^{20} - 1434u^{19} - 4617u^{18} + 2536u^{17} + 7243u^{16} - 3329u^{15} - 8472u^{14} + 3549u^{13} + 7382u^{12} - 3351u^{11} - 4576u^{10} + 2989u^9 + 1670u^8 - 2287u^7 + 99u^6 + 1268u^5 - 537u^4 - 411u^3 + 290u^2 + 52u - 51$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$9(9u^{25} - 87u^{24} + \cdots + 7u - 1)$
c_2	$3(3u^{25} + 9u^{24} + \cdots + 3u + 1)$
c_3, c_8	$u^{25} + 4u^{24} + \cdots - 5u - 1$
c_4, c_{10}	$u^{25} - 4u^{24} + \cdots - 5u + 1$
c_5	$3(3u^{25} - 9u^{24} + \cdots + 3u - 1)$
c_6, c_9	$u^{25} + 2u^{24} + \cdots + 66u + 9$
c_7	$3(3u^{25} + 3u^{24} + \cdots - 3u - 1)$
c_{11}	$3(3u^{25} - 3u^{24} + \cdots - 3u + 1)$
c_{12}	$9(9u^{25} - 105u^{24} + \cdots + 11u - 1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$81(81y^{25}+1089y^{24}+\cdots-y-1)$
c_2, c_5	$9(9y^{25}-87y^{24}+\cdots+7y-1)$
c_3, c_4, c_8 c_{10}	$y^{25}-28y^{24}+\cdots-25y-1$
c_6, c_9	$y^{25}-6y^{24}+\cdots+2070y-81$
c_7, c_{11}	$9(9y^{25}-105y^{24}+\cdots+11y-1)$
c_{12}	$81(81y^{25}+603y^{24}+\cdots-y-1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.923489+0.345905I$ $a=-0.720645-0.527374I$ $b=\ \ 1.71322+0.16401I$	$8.12039+1.07227I$	$8.76909+2.38450I$
$u=-0.923489-0.345905I$ $a=-0.720645+0.527374I$ $b=\ \ 1.71322-0.16401I$	$8.12039-1.07227I$	$8.76909-2.38450I$
$u=-0.669051+0.798063I$ $a=-0.257892-0.343854I$ $b=\ \ 0.765345-0.316241I$	$1.12313-7.15005I$	$6.27018+8.58997I$
$u=-0.669051-0.798063I$ $a=-0.257892+0.343854I$ $b=\ \ 0.765345+0.316241I$	$1.12313+7.15005I$	$6.27018-8.58997I$
$u=-0.889795+0.325257I$ $a=\ \ 0.797666+0.491683I$ $b=-1.70143-0.05361I$	$7.96758-3.88085I$	$7.89399+7.92446I$
$u=-0.889795-0.325257I$ $a=\ \ 0.797666-0.491683I$ $b=-1.70143+0.05361I$	$7.96758+3.88085I$	$7.89399-7.92446I$
$u=-1.036170+0.355737I$ $a=-0.507033-0.432535I$ $b=\ \ 1.47832+0.30367I$	$6.46065-1.83392I$	$13.3143+7.6357I$
$u=-1.036170-0.355737I$ $a=-0.507033+0.432535I$ $b=\ \ 1.47832-0.30367I$	$6.46065+1.83392I$	$13.3143-7.6357I$
$u=-0.896845$ $a=\ \ 0.844584$ $b=-1.43679$	5.02504	4.22460
$u=-0.877000+0.731898I$ $a=-0.0946330+0.0564460I$ $b=-0.008690-0.253427I$	$-4.34453-2.78887I$	$11.2209+9.8076I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.877000-0.731898I$ $a=-0.0946330-0.0564460I$ $b=-0.008690+0.253427I$	$-4.34453+2.78887I$	$11.2209-9.8076I$
$u=\ \ 1.059140+0.465774I$ $a=\ \ 0.68944-2.11241I$ $b=-0.993884-0.685078I$	$4.13121+9.24593I$	$9.8489-10.2882I$
$u=\ \ 1.059140-0.465774I$ $a=\ \ 0.68944+2.11241I$ $b=-0.993884+0.685078I$	$4.13121-9.24593I$	$9.8489+10.2882I$
$u=\ \ 1.045990+0.522170I$ $a=-0.26189+2.16824I$ $b=\ \ 1.177520+0.636228I$	$5.33965+4.74375I$	$11.61336-3.22346I$
$u=\ \ 1.045990-0.522170I$ $a=-0.26189-2.16824I$ $b=\ \ 1.177520-0.636228I$	$5.33965-4.74375I$	$11.61336+3.22346I$
$u=\ \ 0.661465+0.371840I$ $a=\ \ 2.41853-0.99561I$ $b=\ \ 0.756425-0.651019I$	$2.63632-5.65290I$	$6.26334+4.31813I$
$u=\ \ 0.661465-0.371840I$ $a=\ \ 2.41853+0.99561I$ $b=\ \ 0.756425+0.651019I$	$2.63632+5.65290I$	$6.26334-4.31813I$
$u=\ \ 0.747855+0.122313I$ $a=\ \ 1.47583-1.10372I$ $b=\ \ 0.233452-0.314121I$	$-0.701181+0.235235I$	$1.91554+2.64191I$
$u=\ \ 0.747855-0.122313I$ $a=\ \ 1.47583+1.10372I$ $b=\ \ 0.233452+0.314121I$	$-0.701181-0.235235I$	$1.91554-2.64191I$
$u=\ \ 1.077370+0.637247I$ $a=\ \ 0.22264+1.59788I$ $b=\ \ 1.247660+0.351853I$	$5.68920+6.52457I$	$11.36902-6.36884I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.077370 - 0.637247I$ $a = 0.22264 - 1.59788I$ $b = 1.247660 - 0.351853I$	$5.68920 - 6.52457I$	$11.36902 + 6.36884I$
$u = 0.575579 + 0.433026I$ $a = -2.25476 + 0.80851I$ $b = -0.920682 + 0.496698I$	$3.74335 - 0.58916I$	$9.27324 - 0.89770I$
$u = 0.575579 - 0.433026I$ $a = -2.25476 - 0.80851I$ $b = -0.920682 - 0.496698I$	$3.74335 + 0.58916I$	$9.27324 + 0.89770I$
$u = 0.176535 + 0.691857I$ $a = -0.929551 + 1.002670I$ $b = -1.028850 + 0.209652I$	$3.37987 - 0.81185I$	$11.80254 + 0.19976I$
$u = 0.176535 - 0.691857I$ $a = -0.929551 - 1.002670I$ $b = -1.028850 - 0.209652I$	$3.37987 + 0.81185I$	$11.80254 - 0.19976I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$81(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)^{12}$ $\cdot(9u^{25}-87u^{24}+\cdots+7u-1)(9u^{39}+114u^{38}+\cdots+111616u+4096)$
c_2	$9(u^8-u^7+\cdots+2u-1)^{12}(3u^{25}+9u^{24}+\cdots+3u+1)$ $\cdot(3u^{39}+48u^{38}+\cdots-480u-64)$
c_3, c_8	$(u^{25}+4u^{24}+\cdots-5u-1)(u^{39}+2u^{38}+\cdots+2u-1)$ $\cdot(u^{96}-u^{95}+\cdots-369170u+47717)$
c_4, c_{10}	$(u^{25}-4u^{24}+\cdots-5u+1)(u^{39}+2u^{38}+\cdots+2u-1)$ $\cdot(u^{96}-u^{95}+\cdots-369170u+47717)$
c_5	$9(u^8-u^7+\cdots+2u-1)^{12}(3u^{25}-9u^{24}+\cdots+3u-1)$ $\cdot(3u^{39}+48u^{38}+\cdots-480u-64)$
c_6, c_9	$(u^{25}+2u^{24}+\cdots+66u+9)(u^{39}+2u^{38}+\cdots-33u-9)$ $\cdot(u^{96}+9u^{95}+\cdots+2219032u+215401)$
c_7	$9(u^6-u^5+\cdots-u+1)^{16}(3u^{25}+3u^{24}+\cdots-3u-1)$ $\cdot(3u^{39}+54u^{38}+\cdots-3328u-256)$
c_{11}	$9(u^6-u^5+\cdots-u+1)^{16}(3u^{25}-3u^{24}+\cdots-3u+1)$ $\cdot(3u^{39}+54u^{38}+\cdots-3328u-256)$
c_{12}	$81(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^{16}$ $\cdot(9u^{25}-105u^{24}+\cdots+11u-1)$ $\cdot(9u^{39}-132u^{38}+\cdots+262144u-65536)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$6561(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)^{12}$ $\cdot(81y^{25}+1089y^{24}+\cdots-y-1)$ $\cdot(81y^{39}+3006y^{38}+\cdots+5780799488y-16777216)$
c_2, c_5	$81(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)^{12}$ $\cdot(9y^{25}-87y^{24}+\cdots+7y-1)(9y^{39}-114y^{38}+\cdots+111616y-4096)$
c_3, c_4, c_8 c_{10}	$(y^{25}-28y^{24}+\cdots-25y-1)(y^{39}-26y^{38}+\cdots+52y^2-1)$ $\cdot(y^{96}-81y^{95}+\cdots-141748367588y+2276912089)$
c_6, c_9	$(y^{25}-6y^{24}+\cdots+2070y-81)(y^{39}+36y^{37}+\cdots+315y-81)$ $\cdot(y^{96}-33y^{95}+\cdots-549152756700y+46397590801)$
c_7, c_{11}	$81(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^{16}$ $\cdot(9y^{25}-105y^{24}+\cdots+11y-1)$ $\cdot(9y^{39}-132y^{38}+\cdots+262144y-65536)$
c_{12}	$6561(y^6+y^5+\cdots+3y+1)^{16}(81y^{25}+603y^{24}+\cdots-y-1)$ $\cdot(81y^{39}+2196y^{38}+\cdots-63350767616y-4294967296)$