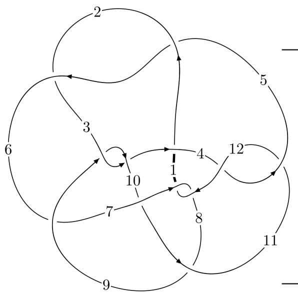
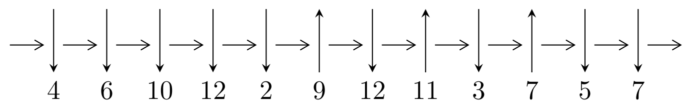
$12n_{0803}$ ($K12n_{0803}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -20967u^{23} + 422302u^{22} + \cdots + 119758b + 1936892,$$
$$333347u^{23} + 3142111u^{22} + \cdots + 119758a + 1463683,\ u^{24} + 8u^{23} + \cdots + 34u + 4\rangle$$
$$I_2^u = \langle 20658081418u^{25}a + 11852435996417u^{25} + \cdots - 20658081418a + 1592388657005,$$
$$-34939904896u^{25}a + 44997972497u^{25} + \cdots + 97240087620a + 132117488383,$$
$$u^{26} - 3u^{25} + \cdots + 6u^2 + 1\rangle$$
$$I_3^u = \langle -u^{11} - 2u^{10} - 5u^9 - 5u^8 - 7u^7 - 2u^6 - 2u^5 + 4u^4 + u^3 + 3u^2 + b - u + 1,$$
$$-u^{11} - 4u^{10} - 11u^9 - 20u^8 - 30u^7 - 34u^6 - 32u^5 - 23u^4 - 13u^3 - 6u^2 + a - 3u - 3,$$
$$u^{12} + 3u^{11} + 8u^{10} + 13u^9 + 20u^8 + 21u^7 + 22u^6 + 15u^5 + 12u^4 + 5u^3 + 5u^2 + u + 1\rangle$$
$$I_4^u = \langle u^5a + 3u^5 + 3u^3a - 5u^4 - 4u^2a + 9u^3 + 4au - 7u^2 + 5b - a + 7u + 2,$$
$$u^4a + 2u^5 - 2u^3a - 3u^4 + 3u^2a + 6u^3 + a^2 - 3au - 6u^2 + 2a + 5u,\ u^6 - u^5 + 3u^4 - 2u^3 + 3u^2 + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 100 representations.

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[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.
$$I_1^u = \langle -2.10\times10^4u^{23}+4.22\times10^5u^{22}+\cdots+1.20\times10^5b+1.94\times10^6,\ 3.33\times10^5u^{23}+3.14\times10^6u^{22}+\cdots+1.20\times10^5a+1.46\times10^6,\ u^{24}+8u^{23}+\cdots+34u+4\rangle$$

(i) Arc colorings

$$a_5 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-2.78351u^{23}-26.2372u^{22}+\cdots-145.274u-12.2220\\0.175078u^{23}-3.52629u^{22}+\cdots-106.512u-16.1734\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}8.01248u^{23}+53.3038u^{22}+\cdots+107.322u+19.8279\\-3.96913u^{23}-20.7820u^{22}+\cdots+82.4172u+11.1340\end{pmatrix}$$
$$a_9 = \begin{pmatrix}4.04335u^{23}+32.5218u^{22}+\cdots+189.739u+30.9619\\-3.96913u^{23}-20.7820u^{22}+\cdots+82.4172u+11.1340\end{pmatrix}$$
$$a_1 = \begin{pmatrix}8.35351u^{23}+54.4948u^{22}+\cdots-21.7233u-14.7332\\7.47725u^{23}+53.9440u^{22}+\cdots+159.286u+21.2134\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-5.30335u^{23}-34.9495u^{22}+\cdots-94.8437u-20.0274\\-18.2073u^{23}-140.297u^{22}+\cdots-532.766u-63.3231\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.615082u^{23}+4.89107u^{22}+\cdots+95.0362u+24.8300\\-11.8092u^{23}-78.8511u^{22}+\cdots-94.1786u-11.2650\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}2.17390u^{23}+18.9945u^{22}+\cdots+64.4428u+1.18601\\0.810526u^{23}+8.98427u^{22}+\cdots+96.0801u+14.8004\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-3.08556u^{23}-21.2898u^{22}+\cdots-85.1959u-19.1276\\-4.41553u^{23}-33.4970u^{22}+\cdots-93.2357u-7.87618\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{248067}{59879}u^{23}+\frac{1208199}{59879}u^{22}+\cdots-\frac{6272226}{59879}u-\frac{1406970}{59879}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24} - 29u^{23} + \cdots + 8704u - 1024$
c_2, c_3, c_5 c_9	$u^{24} - 12u^{22} + \cdots + 4u - 1$
c_4, c_{11}	$u^{24} + 8u^{23} + \cdots + 34u + 4$
c_6	$u^{24} + 19u^{23} + \cdots + 480u + 16$
c_7, c_{12}	$u^{24} + u^{23} + \cdots + 2u + 1$
c_8	$u^{24} + u^{23} + \cdots + 241u + 38$
c_{10}	$u^{24} + 2u^{23} + \cdots + 66u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} - 19y^{23} + \cdots + 52690944y + 1048576$
c_2, c_3, c_5 c_9	$y^{24} - 24y^{23} + \cdots - 2y + 1$
c_4, c_{11}	$y^{24} + 8y^{23} + \cdots - 268y + 16$
c_6	$y^{24} - 5y^{23} + \cdots - 88736y + 256$
c_7, c_{12}	$y^{24} - 37y^{23} + \cdots - 26y + 1$
c_8	$y^{24} + 27y^{23} + \cdots - 37637y + 1444$
c_{10}	$y^{24} + 14y^{23} + \cdots - 548y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.328897 + 0.963555I$ $a = 0.910844 + 0.484743I$ $b = -0.766113 + 0.751089I$	$-4.13392 - 1.43705I$	$-8.07864 + 3.13596I$
$u = 0.328897 - 0.963555I$ $a = 0.910844 - 0.484743I$ $b = -0.766113 - 0.751089I$	$-4.13392 + 1.43705I$	$-8.07864 - 3.13596I$
$u = 0.939855 + 0.071846I$ $a = -0.404510 + 0.906423I$ $b = -0.691190 + 1.173450I$	$-7.64599 + 2.14568I$	$-13.26685 - 1.01150I$
$u = 0.939855 - 0.071846I$ $a = -0.404510 - 0.906423I$ $b = -0.691190 - 1.173450I$	$-7.64599 - 2.14568I$	$-13.26685 + 1.01150I$
$u = -0.746626 + 0.871724I$ $a = -1.08140 + 1.18930I$ $b = -0.239897 + 0.846639I$	$-10.39910 + 0.71995I$	$-14.8370 + 0.2681I$
$u = -0.746626 - 0.871724I$ $a = -1.08140 - 1.18930I$ $b = -0.239897 - 0.846639I$	$-10.39910 - 0.71995I$	$-14.8370 - 0.2681I$
$u = -0.778661 + 0.901540I$ $a = 0.34330 - 1.73842I$ $b = -0.437819 - 1.055850I$	$-10.32800 + 5.07117I$	$-14.4995 - 5.6581I$
$u = -0.778661 - 0.901540I$ $a = 0.34330 + 1.73842I$ $b = -0.437819 + 1.055850I$	$-10.32800 - 5.07117I$	$-14.4995 + 5.6581I$
$u = -0.973000 + 0.794755I$ $a = -0.434212 + 0.833754I$ $b = -0.310872 + 1.186700I$	$-3.59091 + 0.70472I$	$-5.59047 + 0.17704I$
$u = -0.973000 - 0.794755I$ $a = -0.434212 - 0.833754I$ $b = -0.310872 - 1.186700I$	$-3.59091 - 0.70472I$	$-5.59047 - 0.17704I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.306537 + 0.623051I$ $a = -0.22994 - 1.50030I$ $b = 1.000310 - 0.279529I$	$1.86738 - 1.10899I$	$2.50012 + 5.93987I$
$u = 0.306537 - 0.623051I$ $a = -0.22994 + 1.50030I$ $b = 1.000310 + 0.279529I$	$1.86738 + 1.10899I$	$2.50012 - 5.93987I$
$u = -0.143155 + 1.299360I$ $a = 0.335755 - 0.304928I$ $b = -0.292872 + 0.366676I$	$3.50852 + 1.95287I$	$-10.85589 - 6.35743I$
$u = -0.143155 - 1.299360I$ $a = 0.335755 + 0.304928I$ $b = -0.292872 - 0.366676I$	$3.50852 - 1.95287I$	$-10.85589 + 6.35743I$
$u = -0.867739 + 1.076530I$ $a = 0.617487 - 1.083160I$ $b = -0.735051 - 1.110270I$	$-2.71430 + 6.07423I$	$-4.21792 - 5.12279I$
$u = -0.867739 - 1.076530I$ $a = 0.617487 + 1.083160I$ $b = -0.735051 + 1.110270I$	$-2.71430 - 6.07423I$	$-4.21792 + 5.12279I$
$u = -1.124970 + 0.818587I$ $a = 0.772531 - 0.690664I$ $b = 0.92580 - 1.72837I$	$-13.8026 - 8.9954I$	$-11.74034 + 3.92566I$
$u = -1.124970 - 0.818587I$ $a = 0.772531 + 0.690664I$ $b = 0.92580 + 1.72837I$	$-13.8026 + 8.9954I$	$-11.74034 - 3.92566I$
$u = 0.31884 + 1.40808I$ $a = -0.445331 + 0.435914I$ $b = -0.006177 - 1.106850I$	$-2.95010 - 7.04627I$	$-12.05914 + 3.57746I$
$u = 0.31884 - 1.40808I$ $a = -0.445331 - 0.435914I$ $b = -0.006177 + 1.106850I$	$-2.95010 + 7.04627I$	$-12.05914 - 3.57746I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.91822 + 1.13051I$ $a = -0.71706 + 1.35307I$ $b = 1.25897 + 1.53619I$	$-12.7586 + 16.3728I$	$-10.30097 - 7.90933I$
$u = -0.91822 - 1.13051I$ $a = -0.71706 - 1.35307I$ $b = 1.25897 - 1.53619I$	$-12.7586 - 16.3728I$	$-10.30097 + 7.90933I$
$u = -0.429045$ $a = 0.412338$ $b = -0.233949$	-0.678253	-14.6600
$u = -0.254478$ $a = 4.25274$ $b = -1.17623$	-8.31112	-10.4470

II. $\boldsymbol{I_2^u = \langle 2.07 \times 10^{10} au^{25} + 1.19 \times 10^{13} u^{25} + \cdots - 2.07 \times 10^{10} a + 1.59 \times 10^{12},\ -3.49 \times 10^{10} au^{25} + 4.50 \times 10^{10} u^{25} + \cdots + 9.72 \times 10^{10} a + 1.32 \times 10^{11},\ u^{26} - 3u^{25} + \cdots + 6u^2 + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} a \\ -0.00257732au^{25} - 1.47872u^{25} + \cdots + 0.00257732a - 0.198668 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 0.00257732au^{25} + 1.47872u^{25} + \cdots + 0.997423a + 0.198668 \\ -2.02614u^{25} + 4.93564u^{24} + \cdots - 2.35356u - 0.845672 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00257732au^{25} - 0.547418u^{25} + \cdots + 0.997423a - 0.647004 \\ -2.02614u^{25} + 4.93564u^{24} + \cdots - 2.35356u - 0.845672 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.647004au^{25} - 0.0669635u^{25} + \cdots - 1.47872a - 0.0221495 \\ 0.151236au^{25} - 0.930203u^{25} + \cdots - 0.931302a + 1.59748 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.647004au^{25} + 0.0150165u^{25} + \cdots - 1.47872a - 0.0947257 \\ 0.151236au^{25} - 1.17846u^{25} + \cdots - 0.931302a + 1.70643 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.198084au^{25} - 0.0227350u^{25} + \cdots + 0.518890a + 1.13733 \\ 0.349848au^{25} - 0.457338u^{25} + \cdots + 0.00892927a + 1.26221 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.495767au^{25} + 0.647416u^{25} + \cdots + 0.547418a + 0.138652 \\ 0.304060au^{25} - 0.977539u^{25} + \cdots - 0.923265a + 1.73692 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.00515464au^{25} + 0.448336u^{25} + \cdots + 0.994845a - 0.603879 \\ -0.187775au^{25} + 1.12169u^{25} + \cdots + 0.470801a - 3.06193 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{66478862888}{10329040709}u^{25} + \frac{217968421278}{10329040709}u^{24} + \cdots - \frac{74797871360}{10329040709}u + \frac{51959996001}{10329040709}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{26}+7u^{25}+\cdots+104u+1)^2$
c_2, c_3, c_5 c_9	$u^{52}+u^{51}+\cdots+9u+1$
c_4, c_{11}	$(u^{26}-3u^{25}+\cdots+6u^2+1)^2$
c_6	$(u^{26}-5u^{25}+\cdots-114u+31)^2$
c_7, c_{12}	$u^{52}+2u^{51}+\cdots+26027u+12491$
c_8	$u^{52}+4u^{51}+\cdots-283294u+74171$
c_{10}	$u^{52}-5u^{51}+\cdots-453512u+54833$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{26} - 31y^{25} + \cdots - 4608y + 1)^2$
c_2, c_3, c_5 c_9	$y^{52} - 37y^{51} + \cdots - 13y + 1$
c_4, c_{11}	$(y^{26} + 7y^{25} + \cdots + 12y + 1)^2$
c_6	$(y^{26} + 17y^{25} + \cdots + 11618y + 961)^2$
c_7, c_{12}	$y^{52} - 42y^{51} + \cdots - 2616007929y + 156025081$
c_8	$y^{52} + 38y^{51} + \cdots + 245786133074y + 5501337241$
c_{10}	$y^{52} + 27y^{51} + \cdots - 49791469092y + 3006657889$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.131355 + 0.894729I$ $a = 0.451077 - 0.150456I$ $b = -0.998984 - 0.827868I$	$-3.87482 + 4.61379I$	$-6.13572 - 1.30037I$
$u = 0.131355 + 0.894729I$ $a = -1.91778 + 1.70748I$ $b = 0.443117 - 0.656912I$	$-3.87482 + 4.61379I$	$-6.13572 - 1.30037I$
$u = 0.131355 - 0.894729I$ $a = 0.451077 + 0.150456I$ $b = -0.998984 + 0.827868I$	$-3.87482 - 4.61379I$	$-6.13572 + 1.30037I$
$u = 0.131355 - 0.894729I$ $a = -1.91778 - 1.70748I$ $b = 0.443117 + 0.656912I$	$-3.87482 - 4.61379I$	$-6.13572 + 1.30037I$
$u = -0.398785 + 0.702857I$ $a = -0.02931 + 1.44387I$ $b = 0.514475 + 0.867181I$	$-0.83541 + 4.01832I$	$-5.46093 - 8.67700I$
$u = -0.398785 + 0.702857I$ $a = 1.43554 - 0.33694I$ $b = -0.856528 - 0.541924I$	$-0.83541 + 4.01832I$	$-5.46093 - 8.67700I$
$u = -0.398785 - 0.702857I$ $a = -0.02931 - 1.44387I$ $b = 0.514475 - 0.867181I$	$-0.83541 - 4.01832I$	$-5.46093 + 8.67700I$
$u = -0.398785 - 0.702857I$ $a = 1.43554 + 0.33694I$ $b = -0.856528 + 0.541924I$	$-0.83541 - 4.01832I$	$-5.46093 + 8.67700I$
$u = 0.874874 + 0.827469I$ $a = -0.419640 - 0.908306I$ $b = -0.485265 - 1.142940I$	$-6.97798 - 4.77378I$	$-9.07326 + 3.55688I$
$u = 0.874874 + 0.827469I$ $a = 0.21817 + 1.45332I$ $b = -0.539013 + 1.157240I$	$-6.97798 - 4.77378I$	$-9.07326 + 3.55688I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.874874 - 0.827469I$ $a = -0.419640 + 0.908306I$ $b = -0.485265 + 1.142940I$	$-6.97798 + 4.77378I$	$-9.07326 - 3.55688I$
$u = 0.874874 - 0.827469I$ $a = 0.21817 - 1.45332I$ $b = -0.539013 - 1.157240I$	$-6.97798 + 4.77378I$	$-9.07326 - 3.55688I$
$u = 0.509450 + 0.561310I$ $a = -0.40989 + 1.82180I$ $b = -0.36665 + 1.55437I$	$-5.31435 - 7.28077I$	$-10.22138 + 9.25036I$
$u = 0.509450 + 0.561310I$ $a = 1.92175 + 0.40718I$ $b = -0.842568 + 0.445418I$	$-5.31435 - 7.28077I$	$-10.22138 + 9.25036I$
$u = 0.509450 - 0.561310I$ $a = -0.40989 - 1.82180I$ $b = -0.36665 - 1.55437I$	$-5.31435 + 7.28077I$	$-10.22138 - 9.25036I$
$u = 0.509450 - 0.561310I$ $a = 1.92175 - 0.40718I$ $b = -0.842568 - 0.445418I$	$-5.31435 + 7.28077I$	$-10.22138 - 9.25036I$
$u = 0.808196 + 1.014370I$ $a = -0.854481 - 0.716975I$ $b = -0.180742 - 1.005440I$	$-6.39464 - 1.51730I$	$-7.78325 + 2.91717I$
$u = 0.808196 + 1.014370I$ $a = 0.79050 + 1.22544I$ $b = -0.785952 + 0.988947I$	$-6.39464 - 1.51730I$	$-7.78325 + 2.91717I$
$u = 0.808196 - 1.014370I$ $a = -0.854481 + 0.716975I$ $b = -0.180742 + 1.005440I$	$-6.39464 + 1.51730I$	$-7.78325 - 2.91717I$
$u = 0.808196 - 1.014370I$ $a = 0.79050 - 1.22544I$ $b = -0.785952 - 0.988947I$	$-6.39464 + 1.51730I$	$-7.78325 - 2.91717I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.244374 + 0.651478I$ $a = -0.296687 - 0.874288I$ $b = 1.159890 - 0.155610I$	$1.95982 - 1.10736I$	$-0.80753 + 5.92917I$
$u = 0.244374 + 0.651478I$ $a = -0.06047 - 2.05027I$ $b = 0.735414 - 0.089381I$	$1.95982 - 1.10736I$	$-0.80753 + 5.92917I$
$u = 0.244374 - 0.651478I$ $a = -0.296687 + 0.874288I$ $b = 1.159890 + 0.155610I$	$1.95982 + 1.10736I$	$-0.80753 - 5.92917I$
$u = 0.244374 - 0.651478I$ $a = -0.06047 + 2.05027I$ $b = 0.735414 + 0.089381I$	$1.95982 + 1.10736I$	$-0.80753 - 5.92917I$
$u = -1.078600 + 0.784353I$ $a = 0.968849 - 0.380572I$ $b = 1.79712 - 1.86504I$	$-11.92070 + 4.73378I$	$-13.8664 - 3.7620I$
$u = -1.078600 + 0.784353I$ $a = 0.134340 - 1.178040I$ $b = -0.619451 - 1.219200I$	$-11.92070 + 4.73378I$	$-13.8664 - 3.7620I$
$u = -1.078600 - 0.784353I$ $a = 0.968849 + 0.380572I$ $b = 1.79712 + 1.86504I$	$-11.92070 - 4.73378I$	$-13.8664 + 3.7620I$
$u = -1.078600 - 0.784353I$ $a = 0.134340 + 1.178040I$ $b = -0.619451 + 1.219200I$	$-11.92070 - 4.73378I$	$-13.8664 + 3.7620I$
$u = -0.068095 + 1.374870I$ $a = -0.594304 - 1.280230I$ $b = 0.50000 + 1.73847I$	$1.97394 + 0.78097I$	$-7.54315 + 6.50608I$
$u = -0.068095 + 1.374870I$ $a = 0.135613 + 0.044884I$ $b = 0.445532 - 0.369804I$	$1.97394 + 0.78097I$	$-7.54315 + 6.50608I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.068095-1.374870I$ $a=-0.594304+1.280230I$ $b=\ \ 0.50000-1.73847I$	$1.97394-0.78097I$	$-7.54315-6.50608I$
$u=-0.068095-1.374870I$ $a=\ \ 0.135613-0.044884I$ $b=\ \ 0.445532+0.369804I$	$1.97394-0.78097I$	$-7.54315-6.50608I$
$u=-0.551572+0.242043I$ $a=-0.91561-1.39579I$ $b=-0.85997-1.58919I$	$-2.14593+2.04473I$	$-11.96352-3.36744I$
$u=-0.551572+0.242043I$ $a=-0.25837+2.23090I$ $b=\ \ 0.869517+0.406486I$	$-2.14593+2.04473I$	$-11.96352-3.36744I$
$u=-0.551572-0.242043I$ $a=-0.91561+1.39579I$ $b=-0.85997+1.58919I$	$-2.14593-2.04473I$	$-11.96352+3.36744I$
$u=-0.551572-0.242043I$ $a=-0.25837-2.23090I$ $b=\ \ 0.869517-0.406486I$	$-2.14593-2.04473I$	$-11.96352+3.36744I$
$u=\ \ 1.118310+0.840130I$ $a=\ \ 0.933066+0.658847I$ $b=\ \ 1.02920+2.15726I$	$-8.03647+2.93288I$	$-11.16553-3.09783I$
$u=\ \ 1.118310+0.840130I$ $a=-0.414460-0.736911I$ $b=-0.280289-1.187630I$	$-8.03647+2.93288I$	$-11.16553-3.09783I$
$u=\ \ 1.118310-0.840130I$ $a=\ \ 0.933066-0.658847I$ $b=\ \ 1.02920-2.15726I$	$-8.03647-2.93288I$	$-11.16553+3.09783I$
$u=\ \ 1.118310-0.840130I$ $a=-0.414460+0.736911I$ $b=-0.280289+1.187630I$	$-8.03647-2.93288I$	$-11.16553+3.09783I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.94165 + 1.11572I$ $a = 0.506918 + 1.031830I$ $b = -0.723488 + 1.136400I$	$-7.12929 - 10.36590I$	$-8.80055 + 7.37004I$
$u = 0.94165 + 1.11572I$ $a = -0.76431 - 1.34870I$ $b = 1.39425 - 1.81521I$	$-7.12929 - 10.36590I$	$-8.80055 + 7.37004I$
$u = 0.94165 - 1.11572I$ $a = 0.506918 - 1.031830I$ $b = -0.723488 - 1.136400I$	$-7.12929 + 10.36590I$	$-8.80055 - 7.37004I$
$u = 0.94165 - 1.11572I$ $a = -0.76431 + 1.34870I$ $b = 1.39425 + 1.81521I$	$-7.12929 + 10.36590I$	$-8.80055 - 7.37004I$
$u = -0.91859 + 1.17812I$ $a = -0.640700 + 0.507931I$ $b = -0.129200 + 1.118780I$	$-10.69780 + 2.56112I$	$-14.5817 - 1.8830I$
$u = -0.91859 + 1.17812I$ $a = -0.79513 + 1.47363I$ $b = 2.17348 + 1.56361I$	$-10.69780 + 2.56112I$	$-14.5817 - 1.8830I$
$u = -0.91859 - 1.17812I$ $a = -0.640700 - 0.507931I$ $b = -0.129200 - 1.118780I$	$-10.69780 - 2.56112I$	$-14.5817 + 1.8830I$
$u = -0.91859 - 1.17812I$ $a = -0.79513 - 1.47363I$ $b = 2.17348 - 1.56361I$	$-10.69780 - 2.56112I$	$-14.5817 + 1.8830I$
$u = -0.112565 + 0.479367I$ $a = 0.241569 - 0.802021I$ $b = -1.22650 + 0.71556I$	$-1.46888 - 1.74074I$	$-7.09706 - 4.27417I$
$u = -0.112565 + 0.479367I$ $a = 2.13374 + 2.67787I$ $b = 0.332607 - 0.020427I$	$-1.46888 - 1.74074I$	$-7.09706 - 4.27417I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.112565 - 0.479367I$ $a = 0.241569 + 0.802021I$ $b = -1.22650 - 0.71556I$	$-1.46888 + 1.74074I$	$-7.09706 + 4.27417I$
$u = -0.112565 - 0.479367I$ $a = 2.13374 - 2.67787I$ $b = 0.332607 + 0.020427I$	$-1.46888 + 1.74074I$	$-7.09706 + 4.27417I$

III.

$\boldsymbol{I_3^u = \langle -u^{11}-2u^{10}+\cdots+b+1,\ -u^{11}-4u^{10}+\cdots+a-3,\ u^{12}+3u^{11}+\cdots+u+1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} u^{11} + 4u^{10} + \cdots + 3u + 3 \\ u^{11} + 2u^{10} + 5u^9 + 5u^8 + 7u^7 + 2u^6 + 2u^5 - 4u^4 - u^3 - 3u^2 + u - 1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} u^{10} + 3u^9 + 8u^8 + 12u^7 + 18u^6 + 16u^5 + 16u^4 + 7u^3 + 6u^2 + 3 \\ u^{11} + 3u^{10} + 7u^9 + 10u^8 + 13u^7 + 10u^6 + 8u^5 + u^4 + u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{11} + 4u^{10} + \cdots + 2u + 2 \\ u^{11} + 3u^{10} + 7u^9 + 10u^8 + 13u^7 + 10u^6 + 8u^5 + u^4 + u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 4u^{11} + 11u^{10} + \cdots + 9u + 1 \\ -u^{10} - 3u^9 - 7u^8 - 11u^7 - 15u^6 - 15u^5 - 13u^4 - 9u^3 - 4u^2 - 3u - 2 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 2u^{11} + 6u^{10} + \cdots + 2u^2 + 5u \\ -2u^{11} - 7u^{10} + \cdots - 6u - 4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2u^{11} + 5u^{10} + \cdots + 6u - 1 \\ -2u^{11} - 8u^{10} + \cdots - 7u - 4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2u^{11} + 5u^{10} + \cdots + 2u - 2 \\ -u^{11} - 3u^{10} + \cdots - 4u - 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{11} - 2u^{10} - 5u^9 - 5u^8 - 7u^7 - 2u^6 - 3u^5 + 3u^4 - u^3 + 2u^2 - 2u + 2 \\ u^{11} + 3u^{10} + 8u^9 + 12u^8 + 18u^7 + 16u^6 + 16u^5 + 7u^4 + 7u^3 + 4u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= 10u^{11} + 27u^{10} + 67u^9 + 97u^8 + 140u^7 + 127u^6 + 122u^5 + 64u^4 + 46u^3 + 7u^2 + 16u - 9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12}+9u^{9}+\cdots-56u+8$
c_2, c_9	$u^{12}-5u^{10}+11u^{8}+u^{7}-12u^{6}-3u^{5}+7u^{4}+4u^{3}-2u^{2}-2u+1$
c_3, c_5	$u^{12}-5u^{10}+11u^{8}-u^{7}-12u^{6}+3u^{5}+7u^{4}-4u^{3}-2u^{2}+2u+1$
c_4	$u^{12}-3u^{11}+\cdots-u+1$
c_6	$u^{12}+6u^{11}+\cdots+55u+13$
c_7	$u^{12}+u^{11}+\cdots+2u+1$
c_8	$u^{12}+u^{11}+\cdots+26u+11$
c_{10}	$u^{12}-2u^{11}+\cdots-2u+1$
c_{11}	$u^{12}+3u^{11}+\cdots+u+1$
c_{12}	$u^{12}-u^{11}+\cdots-2u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} + 28y^{10} + \cdots - 1760y + 64$
c_2, c_3, c_5 c_9	$y^{12} - 10y^{11} + \cdots - 8y + 1$
c_4, c_{11}	$y^{12} + 7y^{11} + \cdots + 9y + 1$
c_6	$y^{12} + 6y^{11} + \cdots - 607y + 169$
c_7, c_{12}	$y^{12} - 3y^{11} + \cdots + 12y + 1$
c_8	$y^{12} + 5y^{11} + \cdots - 346y + 121$
c_{10}	$y^{12} + 4y^{11} + \cdots + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.901514 + 0.798418I$ $a = 0.140034 - 1.182110I$ $b = -0.100088 - 1.238220I$	$-8.12777 + 6.33189I$	$-12.25726 - 6.68709I$
$u = -0.901514 - 0.798418I$ $a = 0.140034 + 1.182110I$ $b = -0.100088 + 1.238220I$	$-8.12777 - 6.33189I$	$-12.25726 + 6.68709I$
$u = 0.195818 + 1.216330I$ $a = -0.178072 - 0.559998I$ $b = 0.652612 + 0.317914I$	$3.97699 - 1.74972I$	$4.29079 + 0.86004I$
$u = 0.195818 - 1.216330I$ $a = -0.178072 + 0.559998I$ $b = 0.652612 - 0.317914I$	$3.97699 + 1.74972I$	$4.29079 - 0.86004I$
$u = -0.218380 + 1.219800I$ $a = 0.335448 + 0.853839I$ $b = -0.313935 - 0.677604I$	$-1.91415 + 7.37706I$	$-3.90229 - 6.46992I$
$u = -0.218380 - 1.219800I$ $a = 0.335448 - 0.853839I$ $b = -0.313935 + 0.677604I$	$-1.91415 - 7.37706I$	$-3.90229 + 6.46992I$
$u = 0.388421 + 0.538359I$ $a = 0.16183 - 1.70410I$ $b = 1.164420 - 0.293382I$	$1.55954 - 0.78130I$	$-10.36782 - 6.44455I$
$u = 0.388421 - 0.538359I$ $a = 0.16183 + 1.70410I$ $b = 1.164420 + 0.293382I$	$1.55954 + 0.78130I$	$-10.36782 + 6.44455I$
$u = -0.865258 + 1.024720I$ $a = -0.855063 + 0.838948I$ $b = 0.193415 + 1.176310I$	$-7.46101 + 0.19387I$	$-11.77490 + 0.97916I$
$u = -0.865258 - 1.024720I$ $a = -0.855063 - 0.838948I$ $b = 0.193415 - 1.176310I$	$-7.46101 - 0.19387I$	$-11.77490 - 0.97916I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.099086+0.602834I$ $a=\quad 2.39583+0.78317I$ $b=-0.596419+0.848698I$	$-4.48294-5.85264I$	$-8.48852+6.46269I$
$u=-0.099086-0.602834I$ $a=\quad 2.39583-0.78317I$ $b=-0.596419-0.848698I$	$-4.48294+5.85264I$	$-8.48852-6.46269I$

IV. $I^u_4 =$
$\langle u^5a+3u^5+\cdots-a+2,\ u^4a+2u^5+\cdots+a^2+2a,\ u^6-u^5+3u^4-2u^3+3u^2+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a \\ -\frac{1}{5}u^5a - \frac{3}{5}u^5 + \cdots + \frac{1}{5}a - \frac{2}{5} \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{1}{5}u^5a + \frac{3}{5}u^5 + \cdots + \frac{4}{5}a + \frac{2}{5} \\ -u^5 + 2u^4 - 3u^3 - au + 3u^2 - 2u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{5}u^5a - \frac{2}{5}u^5 + \cdots + \frac{4}{5}a + \frac{2}{5} \\ -u^5 + 2u^4 - 3u^3 - au + 3u^2 - 2u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{2}{5}u^5a - \frac{6}{5}u^5 + \cdots - \frac{3}{5}a + \frac{1}{5} \\ \frac{1}{5}u^5a + \frac{3}{5}u^5 + \cdots - \frac{1}{5}a - \frac{3}{5} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{2}{5}u^5a - \frac{1}{5}u^5 + \cdots - \frac{3}{5}a - \frac{4}{5} \\ \frac{1}{5}u^5a + \frac{3}{5}u^5 + \cdots - \frac{1}{5}a - \frac{8}{5} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{3}{5}u^5a + \frac{1}{5}u^5 + \cdots + \frac{3}{5}a - \frac{1}{5} \\ -\frac{1}{5}u^5a + \frac{2}{5}u^5 + \cdots - \frac{4}{5}a - \frac{7}{5} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{3}{5}u^5a - \frac{1}{5}u^5 + \cdots + \frac{2}{5}a - \frac{4}{5} \\ -\frac{1}{5}u^5a + \frac{7}{5}u^5 + \cdots - \frac{4}{5}a - \frac{2}{5} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{2}{5}u^5a + \frac{4}{5}u^5 + \cdots - \frac{3}{5}a - \frac{4}{5} \\ \frac{4}{5}u^5a + \frac{7}{5}u^5 + \cdots - \frac{4}{5}a - \frac{2}{5} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^4 - 8u^3 + 17u^2 - 9u + 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^6+u^5-4u^4+u^3+5u^2-8u+5)^2$
c_2, c_9	$u^{12}-4u^{10}+u^9+3u^8-7u^7+7u^6+17u^5-9u^4-18u^3-4u^2+7u+7$
c_3, c_5	$u^{12}-4u^{10}-u^9+3u^8+7u^7+7u^6-17u^5-9u^4+18u^3-4u^2-7u+7$
c_4	$(u^6+u^5+3u^4+2u^3+3u^2+1)^2$
c_6	$(u^6-u^5-2u^3+2u^2+1)^2$
c_7	$u^{12}-u^{11}+\cdots+7u+7$
c_8	$u^{12}-u^{11}+\cdots+10u^2+11$
c_{10}	$u^{12}+6u^{11}+\cdots-4u+1$
c_{11}	$(u^6-u^5+3u^4-2u^3+3u^2+1)^2$
c_{12}	$u^{12}+u^{11}+\cdots-7u+7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 - 9y^5 + 24y^4 - 15y^3 + y^2 - 14y + 25)^2$
c_2, c_3, c_5 c_9	$y^{12} - 8y^{11} + \cdots - 105y + 49$
c_4, c_{11}	$(y^6 + 5y^5 + 11y^4 + 16y^3 + 15y^2 + 6y + 1)^2$
c_6	$(y^6 - y^5 - 2y^3 + 4y^2 + 4y + 1)^2$
c_7, c_{12}	$y^{12} - 9y^{11} + \cdots + 91y + 49$
c_8	$y^{12} + 3y^{11} + \cdots + 220y + 121$
c_{10}	$y^{12} + 18y^{10} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.751720 + 0.952459I$ $a = -0.636694 - 0.705384I$ $b = -0.573880 - 0.681770I$	$-8.95401 - 2.84527I$	$-10.14719 + 2.90828I$
$u = 0.751720 + 0.952459I$ $a = 0.60954 + 1.74781I$ $b = -1.17448 + 0.86290I$	$-8.95401 - 2.84527I$	$-10.14719 + 2.90828I$
$u = 0.751720 - 0.952459I$ $a = -0.636694 + 0.705384I$ $b = -0.573880 + 0.681770I$	$-8.95401 + 2.84527I$	$-10.14719 - 2.90828I$
$u = 0.751720 - 0.952459I$ $a = 0.60954 - 1.74781I$ $b = -1.17448 - 0.86290I$	$-8.95401 + 2.84527I$	$-10.14719 - 2.90828I$
$u = -0.081708 + 1.363140I$ $a = 0.53017 - 1.32661I$ $b = -1.01141 + 1.63879I$	$1.96943 - 1.24964I$	$-7.73074 + 9.76401I$
$u = -0.081708 + 1.363140I$ $a = 0.310661 + 0.248175I$ $b = 0.313585 - 0.116939I$	$1.96943 - 1.24964I$	$-7.73074 + 9.76401I$
$u = -0.081708 - 1.363140I$ $a = 0.53017 + 1.32661I$ $b = -1.01141 - 1.63879I$	$1.96943 + 1.24964I$	$-7.73074 - 9.76401I$
$u = -0.081708 - 1.363140I$ $a = 0.310661 - 0.248175I$ $b = 0.313585 + 0.116939I$	$1.96943 + 1.24964I$	$-7.73074 - 9.76401I$
$u = -0.170012 + 0.579072I$ $a = 0.463351 - 0.885770I$ $b = -1.25941 - 0.96832I$	$-1.24009 + 2.32699I$	$-1.62207 - 6.56254I$
$u = -0.170012 + 0.579072I$ $a = -1.77702 + 2.80509I$ $b = 0.705591 + 0.260082I$	$-1.24009 + 2.32699I$	$-1.62207 - 6.56254I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.170012-0.579072I$ $a=\ \ 0.463351+0.885770I$ $b=-1.25941+0.96832I$	$-1.24009-2.32699I$	$-1.62207+6.56254I$
$u=-0.170012-0.579072I$ $a=-1.77702-2.80509I$ $b=\ \ 0.705591-0.260082I$	$-1.24009-2.32699I$	$-1.62207+6.56254I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^6+u^5-4u^4+u^3+5u^2-8u+5)^2)(u^{12}+9u^9+\cdots-56u+8)$ $\cdot(u^{24}-29u^{23}+\cdots+8704u-1024)(u^{26}+7u^{25}+\cdots+104u+1)^2$
c_2, c_9	$(u^{12}-5u^{10}+11u^8+u^7-12u^6-3u^5+7u^4+4u^3-2u^2-2u+1)$ $\cdot(u^{12}-4u^{10}+u^9+3u^8-7u^7+7u^6+17u^5-9u^4-18u^3-4u^2+7u+7)$ $\cdot(u^{24}-12u^{22}+\cdots+4u-1)(u^{52}+u^{51}+\cdots+9u+1)$
c_3, c_5	$(u^{12}-5u^{10}+11u^8-u^7-12u^6+3u^5+7u^4-4u^3-2u^2+2u+1)$ $\cdot(u^{12}-4u^{10}-u^9+3u^8+7u^7+7u^6-17u^5-9u^4+18u^3-4u^2-7u+7)$ $\cdot(u^{24}-12u^{22}+\cdots+4u-1)(u^{52}+u^{51}+\cdots+9u+1)$
c_4	$((u^6+u^5+3u^4+2u^3+3u^2+1)^2)(u^{12}-3u^{11}+\cdots-u+1)$ $\cdot(u^{24}+8u^{23}+\cdots+34u+4)(u^{26}-3u^{25}+\cdots+6u^2+1)^2$
c_6	$((u^6-u^5-2u^3+2u^2+1)^2)(u^{12}+6u^{11}+\cdots+55u+13)$ $\cdot(u^{24}+19u^{23}+\cdots+480u+16)(u^{26}-5u^{25}+\cdots-114u+31)^2$
c_7	$(u^{12}-u^{11}+\cdots+7u+7)(u^{12}+u^{11}+\cdots+2u+1)$ $\cdot(u^{24}+u^{23}+\cdots+2u+1)(u^{52}+2u^{51}+\cdots+26027u+12491)$
c_8	$(u^{12}-u^{11}+\cdots+10u^2+11)(u^{12}+u^{11}+\cdots+26u+11)$ $\cdot(u^{24}+u^{23}+\cdots+241u+38)(u^{52}+4u^{51}+\cdots-283294u+74171)$
c_{10}	$(u^{12}-2u^{11}+\cdots-2u+1)(u^{12}+6u^{11}+\cdots-4u+1)$ $\cdot(u^{24}+2u^{23}+\cdots+66u+7)(u^{52}-5u^{51}+\cdots-453512u+54833)$
c_{11}	$((u^6-u^5+3u^4-2u^3+3u^2+1)^2)(u^{12}+3u^{11}+\cdots+u+1)$ $\cdot(u^{24}+8u^{23}+\cdots+34u+4)(u^{26}-3u^{25}+\cdots+6u^2+1)^2$
c_{12}	$(u^{12}-u^{11}+\cdots-2u+1)(u^{12}+u^{11}+\cdots-7u+7)$ $\cdot(u^{24}+u^{23}+\cdots+2u+1)(u^{52}+2u^{51}+\cdots+26027u+12491)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 - 9y^5 + 24y^4 - 15y^3 + y^2 - 14y + 25)^2$ $\cdot (y^{12} + 28y^{10} + \cdots - 1760y + 64)$ $\cdot (y^{24} - 19y^{23} + \cdots + 52690944y + 1048576)$ $\cdot (y^{26} - 31y^{25} + \cdots - 4608y + 1)^2$
c_2, c_3, c_5 c_9	$(y^{12} - 10y^{11} + \cdots - 8y + 1)(y^{12} - 8y^{11} + \cdots - 105y + 49)$ $\cdot (y^{24} - 24y^{23} + \cdots - 2y + 1)(y^{52} - 37y^{51} + \cdots - 13y + 1)$
c_4, c_{11}	$((y^6 + 5y^5 + \cdots + 6y + 1)^2)(y^{12} + 7y^{11} + \cdots + 9y + 1)$ $\cdot (y^{24} + 8y^{23} + \cdots - 268y + 16)(y^{26} + 7y^{25} + \cdots + 12y + 1)^2$
c_6	$((y^6 - y^5 - 2y^3 + 4y^2 + 4y + 1)^2)(y^{12} + 6y^{11} + \cdots - 607y + 169)$ $\cdot (y^{24} - 5y^{23} + \cdots - 88736y + 256)$ $\cdot (y^{26} + 17y^{25} + \cdots + 11618y + 961)^2$
c_7, c_{12}	$(y^{12} - 9y^{11} + \cdots + 91y + 49)(y^{12} - 3y^{11} + \cdots + 12y + 1)$ $\cdot (y^{24} - 37y^{23} + \cdots - 26y + 1)$ $\cdot (y^{52} - 42y^{51} + \cdots - 2616007929y + 156025081)$
c_8	$(y^{12} + 3y^{11} + \cdots + 220y + 121)(y^{12} + 5y^{11} + \cdots - 346y + 121)$ $\cdot (y^{24} + 27y^{23} + \cdots - 37637y + 1444)$ $\cdot (y^{52} + 38y^{51} + \cdots + 245786133074y + 5501337241)$
c_{10}	$(y^{12} + 18y^{10} + \cdots - 16y + 1)(y^{12} + 4y^{11} + \cdots + 2y + 1)$ $\cdot (y^{24} + 14y^{23} + \cdots - 548y + 49)$ $\cdot (y^{52} + 27y^{51} + \cdots - 49791469092y + 3006657889)$