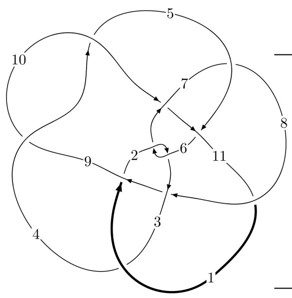
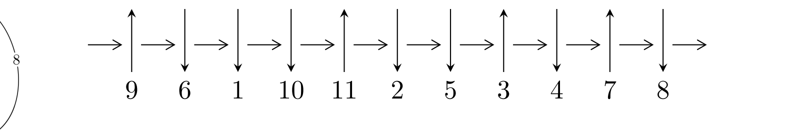
$11a_{314}$ $(K11a_{314})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 8.61471 \times 10^{40} u^{35} - 1.83411 \times 10^{41} u^{34} + \cdots + 5.25231 \times 10^{41} b - 3.70395 \times 10^{41},$$
$$2.23742 \times 10^{42} u^{35} - 7.36115 \times 10^{42} u^{34} + \cdots + 1.10299 \times 10^{43} a - 4.47196 \times 10^{43},\ u^{36} - 3u^{35} + \cdots - 41u +$$
$$I_2^u = \langle -2.43055 \times 10^{20} a u^{32} + 6.47281 \times 10^{20} u^{32} + \cdots - 3.83637 \times 10^{20} a - 8.61406 \times 10^{20},$$
$$4.95038 \times 10^{20} a u^{32} - 3.49948 \times 10^{20} u^{32} + \cdots + 5.33454 \times 10^{20} a + 1.26914 \times 10^{21},\ u^{33} + u^{32} + \cdots - 2u - 1$$
$$I_3^u = \langle u^5 a - 3u^4 a - 4u^5 + 4u^3 a + 3u^4 - 2u^2 a - 13u^3 + 8u^2 + 3b - a - 12u + 1,$$
$$21u^5 a + 19u^5 + 63u^3 a - 23u^4 + 14u^2 a + 72u^3 + 7a^2 + 42au - 67u^2 + 56a + 80u - 20,$$
$$u^6 - u^5 + 4u^4 - 3u^3 + 5u^2 - u + 1\rangle$$
$$I_4^u = \langle -u^3 - 2u^2 + b - 2u - 1,\ u^4 + u^3 + a - u - 2,\ u^5 + 2u^4 + 3u^3 + 3u^2 + u + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 119 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 8.61\times10^{40}u^{35}-1.83\times10^{41}u^{34}+\cdots+5.25\times10^{41}b-3.70\times10^{41},\ 2.24\times10^{42}u^{35}-7.36\times10^{42}u^{34}+\cdots+1.10\times10^{43}a-4.47\times10^{43},\ u^{36}-3u^{35}+\cdots-41u+8\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -0.202851u^{35}+0.667384u^{34}+\cdots-15.2882u+4.05441 \\ -0.164017u^{35}+0.349200u^{34}+\cdots-2.46540u+0.705203 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.105569u^{35}+0.356434u^{34}+\cdots-12.7501u+5.10427 \\ -0.226388u^{35}+0.544294u^{34}+\cdots-6.01564u+1.25342 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00692985u^{35}-0.108881u^{34}+\cdots+5.10249u+0.776589 \\ 0.0935874u^{35}-0.140600u^{34}+\cdots-2.26813u+1.29025 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0388338u^{35}+0.318184u^{34}+\cdots-12.8228u+3.34921 \\ -0.164017u^{35}+0.349200u^{34}+\cdots-2.46540u+0.705203 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.103938u^{35}+0.595414u^{34}+\cdots-24.0552u+7.44471 \\ -0.283599u^{35}+0.624540u^{34}+\cdots-3.18323u-0.831508 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0881504u^{35}+0.100434u^{34}+\cdots+3.42966u+1.14876 \\ 0.201683u^{35}-0.426849u^{34}+\cdots+1.75702u+0.310670 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.396588u^{35}-0.858030u^{34}+\cdots+4.64230u-0.696871 \\ -0.354176u^{35}+0.932845u^{34}+\cdots-16.5994u+2.94258 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.396588u^{35}-0.858030u^{34}+\cdots+4.64230u-0.696871 \\ -0.354176u^{35}+0.932845u^{34}+\cdots-16.5994u+2.94258 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.705642u^{35}-1.36959u^{34}+\cdots-2.37672u+0.386803$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{36} + 2u^{35} + \cdots - 144u - 14$
c_2, c_6	$u^{36} + 3u^{35} + \cdots + 41u + 8$
c_3, c_7	$u^{36} - u^{35} + \cdots + u - 7$
c_4, c_9	$7(7u^{36} - 27u^{35} + \cdots - 32u - 64)$
c_5, c_8	$7(7u^{36} - 6u^{35} + \cdots - 4u + 1)$
c_{11}	$u^{36} + 6u^{35} + \cdots - 2641u - 394$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{36} + 2y^{35} + \cdots - 2592y + 196$
c_2, c_6	$y^{36} + 13y^{35} + \cdots - 641y + 64$
c_3, c_7	$y^{36} - 9y^{35} + \cdots + 321y + 49$
c_4, c_9	$49(49y^{36} - 1289y^{35} + \cdots - 31744y + 4096)$
c_5, c_8	$49(49y^{36} - 456y^{35} + \cdots - 20y + 1)$
c_{11}	$y^{36} + 4y^{35} + \cdots - 1886765y + 155236$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.664991 + 0.788504I$ $a = 0.206169 - 0.722289I$ $b = 0.096578 + 0.477168I$	$-1.34782 - 1.56519I$	$0.84439 + 2.92266I$
$u = 0.664991 - 0.788504I$ $a = 0.206169 + 0.722289I$ $b = 0.096578 - 0.477168I$	$-1.34782 + 1.56519I$	$0.84439 - 2.92266I$
$u = 0.309249 + 0.905547I$ $a = 1.79251 + 0.71331I$ $b = 0.751216 + 0.448888I$	$-1.22381 - 2.38943I$	$-2.60962 + 0.88195I$
$u = 0.309249 - 0.905547I$ $a = 1.79251 - 0.71331I$ $b = 0.751216 - 0.448888I$	$-1.22381 + 2.38943I$	$-2.60962 - 0.88195I$
$u = -0.888722 + 0.321374I$ $a = 0.363466 - 0.084941I$ $b = 0.703627 - 0.796093I$	$-1.32711 - 7.08620I$	$-4.38282 + 7.74538I$
$u = -0.888722 - 0.321374I$ $a = 0.363466 + 0.084941I$ $b = 0.703627 + 0.796093I$	$-1.32711 + 7.08620I$	$-4.38282 - 7.74538I$
$u = -0.518925 + 1.036550I$ $a = -0.767941 + 0.827823I$ $b = -1.051610 + 0.091581I$	$3.19944 + 1.84265I$	$5.26933 - 1.44076I$
$u = -0.518925 - 1.036550I$ $a = -0.767941 - 0.827823I$ $b = -1.051610 - 0.091581I$	$3.19944 - 1.84265I$	$5.26933 + 1.44076I$
$u = -1.16822$ $a = -0.710710$ $b = 0.650117$	-7.32636	-13.3830
$u = 0.478238 + 1.066020I$ $a = 2.08338 + 0.02701I$ $b = 0.97824 - 1.76146I$	$-0.67631 - 8.62575I$	$0.85500 + 10.45337I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.478238 - 1.066020I$ $a = 2.08338 - 0.02701I$ $b = 0.97824 + 1.76146I$	$-0.67631 + 8.62575I$	$0.85500 - 10.45337I$
$u = 0.398028 + 1.136150I$ $a = 0.553917 + 0.951098I$ $b = 1.25000 + 0.81047I$	$-0.316044 + 1.377840I$	$0.40549 - 3.04607I$
$u = 0.398028 - 1.136150I$ $a = 0.553917 - 0.951098I$ $b = 1.25000 - 0.81047I$	$-0.316044 - 1.377840I$	$0.40549 + 3.04607I$
$u = -0.420762 + 1.153070I$ $a = -1.70439 + 0.18358I$ $b = -1.14723 - 1.04061I$	$3.76935 + 5.55914I$	$7.29930 - 8.75003I$
$u = -0.420762 - 1.153070I$ $a = -1.70439 - 0.18358I$ $b = -1.14723 + 1.04061I$	$3.76935 - 5.55914I$	$7.29930 + 8.75003I$
$u = 1.22770$ $a = 0.220807$ $b = 0.272974$	-2.30591	-25.6820
$u = 0.773847 + 1.014680I$ $a = 0.823733 + 0.526895I$ $b = 0.348098 - 0.539202I$	$-0.76840 - 4.07443I$	$-2.61964 + 5.42418I$
$u = 0.773847 - 1.014680I$ $a = 0.823733 - 0.526895I$ $b = 0.348098 + 0.539202I$	$-0.76840 + 4.07443I$	$-2.61964 - 5.42418I$
$u = 1.213610 + 0.471997I$ $a = 0.0522347 + 0.0634017I$ $b = -0.99435 - 1.13172I$	$-7.25713 + 12.05490I$	$-6.87385 - 7.36867I$
$u = 1.213610 - 0.471997I$ $a = 0.0522347 - 0.0634017I$ $b = -0.99435 + 1.13172I$	$-7.25713 - 12.05490I$	$-6.87385 + 7.36867I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.611418+1.156610I$ $a=1.75019-0.34229I$ $b=0.948743+0.849128I$	$1.15223+12.56020I$	$-2.14661-10.43699I$
$u=-0.611418-1.156610I$ $a=1.75019+0.34229I$ $b=0.948743-0.849128I$	$1.15223-12.56020I$	$-2.14661+10.43699I$
$u=-0.096544+1.309750I$ $a=1.024940-0.533084I$ $b=0.729584-0.253643I$	$4.46757-3.67706I$	$3.45782+3.48358I$
$u=-0.096544-1.309750I$ $a=1.024940+0.533084I$ $b=0.729584+0.253643I$	$4.46757+3.67706I$	$3.45782-3.48358I$
$u=0.556045+0.380280I$ $a=0.75859+1.37452I$ $b=0.611800-1.101080I$	$-2.98357-5.46509I$	$-4.40298+5.74809I$
$u=0.556045-0.380280I$ $a=0.75859-1.37452I$ $b=0.611800+1.101080I$	$-2.98357+5.46509I$	$-4.40298-5.74809I$
$u=0.331294+0.549198I$ $a=-2.03245+0.47407I$ $b=0.44966+1.55974I$	$-2.49638+4.90008I$	$-3.79310-7.77480I$
$u=0.331294-0.549198I$ $a=-2.03245-0.47407I$ $b=0.44966-1.55974I$	$-2.49638-4.90008I$	$-3.79310+7.77480I$
$u=-0.572685+0.080761I$ $a=0.472008-0.470814I$ $b=-0.639767+0.652105I$	$0.74933-1.67412I$	$0.81111+4.63626I$
$u=-0.572685-0.080761I$ $a=0.472008+0.470814I$ $b=-0.639767-0.652105I$	$0.74933+1.67412I$	$0.81111-4.63626I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.74631 + 1.24839I$ $a = -1.54739 - 0.38151I$ $b = -1.09203 + 1.33473I$	$-4.7264 - 18.9578I$	$-4.99741 + 9.85636I$
$u = 0.74631 - 1.24839I$ $a = -1.54739 + 0.38151I$ $b = -1.09203 - 1.33473I$	$-4.7264 + 18.9578I$	$-4.99741 - 9.85636I$
$u = -0.19922 + 1.64465I$ $a = -0.938395 - 0.165870I$ $b = -1.27867 - 0.61003I$	$1.57745 + 7.38932I$	0
$u = -0.19922 - 1.64465I$ $a = -0.938395 + 0.165870I$ $b = -1.27867 + 0.61003I$	$1.57745 - 7.38932I$	0
$u = 0.317864$ $a = 1.05754$ $b = 0.804397$	-3.24067	-2.80810
$u = -1.70401$ $a = 0.0619210$ $b = -1.05525$	-5.25552	0

II.
$I_2^u = \langle -2.43\times10^{20}au^{32}+6.47\times10^{20}u^{32}+\cdots-3.84\times10^{20}a-8.61\times10^{20},\ 4.95\times10^{20}au^{32}-3.50\times10^{20}u^{32}+\cdots+5.33\times10^{20}a+1.27\times10^{21},\ u^{33}+u^{32}+\cdots-2u-1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ 6.17561au^{32} - 16.4463u^{32} + \cdots + 9.74756a + 21.8868 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 15.4244au^{32} + 18.6669u^{32} + \cdots - 21.4494a + 11.7346 \\ -2.41747au^{32} - 4.89104u^{32} + \cdots + 4.36925a + 5.31631 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -20.3325au^{32} - 29.5888u^{32} + \cdots + 30.2366a + 1.23756 \\ -1.92091au^{32} + 11.7466u^{32} + \cdots - 5.00243a - 20.0640 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -6.17561au^{32} + 16.4463u^{32} + \cdots - 8.74756a - 21.8868 \\ 6.17561au^{32} - 16.4463u^{32} + \cdots + 9.74756a + 21.8868 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 8.00399au^{32} + 35.7108u^{32} + \cdots - 26.8856a - 24.1021 \\ 9.29658au^{32} - 21.9349u^{32} + \cdots + 8.00399a + 41.1530 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -9.74756au^{32} - 30.4209u^{32} + \cdots + 24.0610a + 16.6620 \\ -10.5850au^{32} + 5.09705u^{32} + \cdots + 6.17561a - 27.2965 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.494744au^{32} + 24.1111u^{32} + \cdots - 16.2512a - 28.9205 \\ 11.8477au^{32} - 13.2154u^{32} + \cdots + 5.90658a + 35.7744 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.494744au^{32} + 24.1111u^{32} + \cdots - 16.2512a - 28.9205 \\ 11.8477au^{32} - 13.2154u^{32} + \cdots + 5.90658a + 35.7744 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{233960085812908682097}{13119091879006586663}u^{32} - \frac{122838803537233845053}{39357275637019759989}u^{31} + \cdots - \frac{102043367879924418834 5}{39357275637019759989}u - \frac{117425289846695403173 8}{39357275637019759989}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{66} - u^{65} + \cdots + 360u + 11$
c_2, c_6	$(u^{33} - u^{32} + \cdots - 2u + 1)^2$
c_3, c_7	$u^{66} - 11u^{65} + \cdots - 3027u + 484$
c_4, c_9	$(u^{33} - 13u^{31} + \cdots + 60u + 9)^2$
c_5, c_8	$u^{66} + 2u^{65} + \cdots - 9u + 2$
c_{11}	$(u^{33} - 5u^{32} + \cdots + 88u - 47)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{66} + 25y^{65} + \cdots - 60564y + 121$
c_2, c_6	$(y^{33} + 21y^{32} + \cdots - 20y - 1)^2$
c_3, c_7	$y^{66} - 29y^{65} + \cdots - 9905185y + 234256$
c_4, c_9	$(y^{33} - 26y^{32} + \cdots + 828y - 81)^2$
c_5, c_8	$y^{66} + 28y^{65} + \cdots - 41y + 4$
c_{11}	$(y^{33} - 23y^{32} + \cdots + 24852y - 2209)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.417392 + 0.929081I$ $a = 0.117806 - 1.017110I$ $b = 0.61426 - 1.45227I$	$-0.35121 + 5.74395I$	$-4.00846 - 9.48122I$
$u = -0.417392 + 0.929081I$ $a = -2.40309 + 0.13570I$ $b = -0.476485 - 0.850411I$	$-0.35121 + 5.74395I$	$-4.00846 - 9.48122I$
$u = -0.417392 - 0.929081I$ $a = 0.117806 + 1.017110I$ $b = 0.61426 + 1.45227I$	$-0.35121 - 5.74395I$	$-4.00846 + 9.48122I$
$u = -0.417392 - 0.929081I$ $a = -2.40309 - 0.13570I$ $b = -0.476485 + 0.850411I$	$-0.35121 - 5.74395I$	$-4.00846 + 9.48122I$
$u = 0.414454 + 0.869237I$ $a = -0.900638 + 0.750691I$ $b = -0.465090 - 0.778291I$	$-0.30625 - 1.73487I$	$-2.88654 + 2.20347I$
$u = 0.414454 + 0.869237I$ $a = -2.65339 - 0.05663I$ $b = -0.671706 + 0.442842I$	$-0.30625 - 1.73487I$	$-2.88654 + 2.20347I$
$u = 0.414454 - 0.869237I$ $a = -0.900638 - 0.750691I$ $b = -0.465090 + 0.778291I$	$-0.30625 + 1.73487I$	$-2.88654 - 2.20347I$
$u = 0.414454 - 0.869237I$ $a = -2.65339 + 0.05663I$ $b = -0.671706 - 0.442842I$	$-0.30625 + 1.73487I$	$-2.88654 - 2.20347I$
$u = -0.472417 + 1.010790I$ $a = -1.61213 + 0.10091I$ $b = -0.036980 - 0.568939I$	$-4.16587 + 3.01159I$	$-11.51158 - 5.38736I$
$u = -0.472417 + 1.010790I$ $a = 2.01812 - 0.47306I$ $b = 1.80069 + 1.09379I$	$-4.16587 + 3.01159I$	$-11.51158 - 5.38736I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.472417-1.010790I$ $a=-1.61213-0.10091I$ $b=-0.036980+0.568939I$	$-4.16587-3.01159I$	$-11.51158+5.38736I$
$u=-0.472417-1.010790I$ $a=\ \ 2.01812+0.47306I$ $b=\ \ 1.80069-1.09379I$	$-4.16587-3.01159I$	$-11.51158+5.38736I$
$u=\ \ 0.100593+1.216160I$ $a=\ \ 1.33835+0.55468I$ $b=\ \ 0.808856+0.245405I$	$4.81646-2.61267I$	$2.98003+2.49183I$
$u=\ \ 0.100593+1.216160I$ $a=-1.41971+0.56060I$ $b=-1.094700+0.741598I$	$4.81646-2.61267I$	$2.98003+2.49183I$
$u=\ \ 0.100593-1.216160I$ $a=\ \ 1.33835-0.55468I$ $b=\ \ 0.808856-0.245405I$	$4.81646+2.61267I$	$2.98003-2.49183I$
$u=\ \ 0.100593-1.216160I$ $a=-1.41971-0.56060I$ $b=-1.094700-0.741598I$	$4.81646+2.61267I$	$2.98003-2.49183I$
$u=-0.392936+0.664924I$ $a=\ \ 0.193117-0.538220I$ $b=-0.344357+1.111940I$	$-1.06351-2.23250I$	$-4.94311+2.28132I$
$u=-0.392936+0.664924I$ $a=\ \ 1.58119+0.03868I$ $b=\ \ 0.675409+0.632548I$	$-1.06351-2.23250I$	$-4.94311+2.28132I$
$u=-0.392936-0.664924I$ $a=\ \ 0.193117+0.538220I$ $b=-0.344357-1.111940I$	$-1.06351+2.23250I$	$-4.94311-2.28132I$
$u=-0.392936-0.664924I$ $a=\ \ 1.58119-0.03868I$ $b=\ \ 0.675409-0.632548I$	$-1.06351+2.23250I$	$-4.94311-2.28132I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.557709 + 1.097620I$ $a = -0.260077 + 0.915977I$ $b = -0.154095 - 1.041730I$	$-5.04427 + 9.67271I$	$-8.11986 - 8.22619I$
$u = -0.557709 + 1.097620I$ $a = 1.93591 - 0.15684I$ $b = 1.09058 + 1.15805I$	$-5.04427 + 9.67271I$	$-8.11986 - 8.22619I$
$u = -0.557709 - 1.097620I$ $a = -0.260077 - 0.915977I$ $b = -0.154095 + 1.041730I$	$-5.04427 - 9.67271I$	$-8.11986 + 8.22619I$
$u = -0.557709 - 1.097620I$ $a = 1.93591 + 0.15684I$ $b = 1.09058 - 1.15805I$	$-5.04427 - 9.67271I$	$-8.11986 + 8.22619I$
$u = -0.412549 + 0.632401I$ $a = 0.06708 - 1.54795I$ $b = 0.247885 + 0.969351I$	$-5.44291 + 0.78188I$	$-12.85213 - 1.24354I$
$u = -0.412549 + 0.632401I$ $a = -0.41241 - 1.69473I$ $b = 0.85738 - 1.44035I$	$-5.44291 + 0.78188I$	$-12.85213 - 1.24354I$
$u = -0.412549 - 0.632401I$ $a = 0.06708 + 1.54795I$ $b = 0.247885 - 0.969351I$	$-5.44291 - 0.78188I$	$-12.85213 + 1.24354I$
$u = -0.412549 - 0.632401I$ $a = -0.41241 + 1.69473I$ $b = 0.85738 + 1.44035I$	$-5.44291 - 0.78188I$	$-12.85213 + 1.24354I$
$u = 0.355820 + 0.662489I$ $a = 1.360960 - 0.272301I$ $b = 0.444016 - 0.015311I$	$-0.93123 - 1.60031I$	$-4.00690 + 5.61012I$
$u = 0.355820 + 0.662489I$ $a = 0.518884 - 0.139240I$ $b = 0.020761 + 0.794705I$	$-0.93123 - 1.60031I$	$-4.00690 + 5.61012I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.355820 - 0.662489I$ $a = 1.360960 + 0.272301I$ $b = 0.444016 + 0.015311I$	$-0.93123 + 1.60031I$	$-4.00690 - 5.61012I$
$u = 0.355820 - 0.662489I$ $a = 0.518884 + 0.139240I$ $b = 0.020761 - 0.794705I$	$-0.93123 + 1.60031I$	$-4.00690 - 5.61012I$
$u = 0.498996 + 1.149370I$ $a = -0.38658 - 1.38128I$ $b = -1.85663 - 1.80445I$	$-3.63632 - 8.62361I$	$-12.3273 + 8.9713I$
$u = 0.498996 + 1.149370I$ $a = 1.90689 - 0.02871I$ $b = 0.79240 - 1.24669I$	$-3.63632 - 8.62361I$	$-12.3273 + 8.9713I$
$u = 0.498996 - 1.149370I$ $a = -0.38658 + 1.38128I$ $b = -1.85663 + 1.80445I$	$-3.63632 + 8.62361I$	$-12.3273 - 8.9713I$
$u = 0.498996 - 1.149370I$ $a = 1.90689 + 0.02871I$ $b = 0.79240 + 1.24669I$	$-3.63632 + 8.62361I$	$-12.3273 - 8.9713I$
$u = 1.29498$ $a = 0.222091$ $b = 0.544464$	-2.30187	-31.9940
$u = 1.29498$ $a = 0.181714$ $b = 0.0439292$	-2.30187	-31.9940
$u = 0.691384 + 0.062495I$ $a = 0.254081 + 0.231283I$ $b = 0.467648 - 1.124340I$	$-6.68521 - 4.32166I$	$-11.81943 + 6.69112I$
$u = 0.691384 + 0.062495I$ $a = 1.03700 + 2.83810I$ $b = -0.961413 - 0.876208I$	$-6.68521 - 4.32166I$	$-11.81943 + 6.69112I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.691384 - 0.062495I$ $a = 0.254081 - 0.231283I$ $b = 0.467648 + 1.124340I$	$-6.68521 + 4.32166I$	$-11.81943 - 6.69112I$
$u = 0.691384 - 0.062495I$ $a = 1.03700 - 2.83810I$ $b = -0.961413 + 0.876208I$	$-6.68521 + 4.32166I$	$-11.81943 - 6.69112I$
$u = -0.601870 + 0.332174I$ $a = -0.145333 - 0.282143I$ $b = 0.676050 - 1.175820I$	$-7.19868 - 4.98844I$	$-12.36402 + 2.27839I$
$u = -0.601870 + 0.332174I$ $a = 2.11833 - 2.52447I$ $b = -0.529191 + 0.664200I$	$-7.19868 - 4.98844I$	$-12.36402 + 2.27839I$
$u = -0.601870 - 0.332174I$ $a = -0.145333 + 0.282143I$ $b = 0.676050 + 1.175820I$	$-7.19868 + 4.98844I$	$-12.36402 - 2.27839I$
$u = -0.601870 - 0.332174I$ $a = 2.11833 + 2.52447I$ $b = -0.529191 - 0.664200I$	$-7.19868 + 4.98844I$	$-12.36402 - 2.27839I$
$u = 0.626600 + 1.208130I$ $a = -0.891596 - 0.208892I$ $b = -0.885135 + 0.559574I$	$0.84876 - 6.19552I$	$-3.00000 + 7.44126I$
$u = 0.626600 + 1.208130I$ $a = 1.51704 + 0.31423I$ $b = 0.819944 - 0.828069I$	$0.84876 - 6.19552I$	$-3.00000 + 7.44126I$
$u = 0.626600 - 1.208130I$ $a = -0.891596 + 0.208892I$ $b = -0.885135 - 0.559574I$	$0.84876 + 6.19552I$	$-3.00000 - 7.44126I$
$u = 0.626600 - 1.208130I$ $a = 1.51704 - 0.31423I$ $b = 0.819944 + 0.828069I$	$0.84876 + 6.19552I$	$-3.00000 - 7.44126I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.60344 + 1.36253I$ $a = -0.300421 - 0.241381I$ $b = \quad 0.183626 - 0.365150I$	$-3.20813 - 1.17398I$	$-16.8881 + 0.I$
$u = -0.60344 + 1.36253I$ $a = -0.029011 + 0.370695I$ $b = -0.98290 + 1.89865I$	$-3.20813 - 1.17398I$	$-16.8881 + 0.I$
$u = -0.60344 - 1.36253I$ $a = -0.300421 + 0.241381I$ $b = \quad 0.183626 + 0.365150I$	$-3.20813 + 1.17398I$	$-16.8881 + 0.I$
$u = -0.60344 - 1.36253I$ $a = -0.029011 - 0.370695I$ $b = -0.98290 - 1.89865I$	$-3.20813 + 1.17398I$	$-16.8881 + 0.I$
$u = -0.90200 + 1.23014I$ $a = \quad 0.567900 - 0.143956I$ $b = \quad 0.233108 + 0.551448I$	$-2.85108 + 10.01350I$	0
$u = -0.90200 + 1.23014I$ $a = -1.36302 + 0.57989I$ $b = -1.16123 - 1.45442I$	$-2.85108 + 10.01350I$	0
$u = -0.90200 - 1.23014I$ $a = \quad 0.567900 + 0.143956I$ $b = \quad 0.233108 - 0.551448I$	$-2.85108 - 10.01350I$	0
$u = -0.90200 - 1.23014I$ $a = -1.36302 - 0.57989I$ $b = -1.16123 + 1.45442I$	$-2.85108 - 10.01350I$	0
$u = -0.050458 + 0.377504I$ $a = -0.729840 - 1.049950I$ $b = \quad 0.396037 + 1.206410I$	$-6.81266 + 4.73250I$	$-21.9711 - 14.2148I$
$u = -0.050458 + 0.377504I$ $a = -9.49427 - 0.72345I$ $b = -1.60778 - 0.29179I$	$-6.81266 + 4.73250I$	$-21.9711 - 14.2148I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.050458 - 0.377504I$ $a = -0.729840 + 1.049950I$ $b = 0.396037 - 1.206410I$	$-6.81266 - 4.73250I$	$-21.9711 + 14.2148I$
$u = -0.050458 - 0.377504I$ $a = -9.49427 + 0.72345I$ $b = -1.60778 + 0.29179I$	$-6.81266 - 4.73250I$	$-21.9711 + 14.2148I$
$u = 0.57543 + 1.63125I$ $a = -0.238828 - 0.129721I$ $b = 0.07358 + 1.85946I$	$-2.87513 - 0.70475I$	0
$u = 0.57543 + 1.63125I$ $a = 0.005781 + 0.205594I$ $b = 0.231256 + 0.346251I$	$-2.87513 - 0.70475I$	0
$u = 0.57543 - 1.63125I$ $a = -0.238828 + 0.129721I$ $b = 0.07358 - 1.85946I$	$-2.87513 + 0.70475I$	0
$u = 0.57543 - 1.63125I$ $a = 0.005781 - 0.205594I$ $b = 0.231256 - 0.346251I$	$-2.87513 + 0.70475I$	0

III. $\boldsymbol{I_3^u = \langle u^5a - 4u^5 + \cdots - a + 1,\ 21u^5a + 19u^5 + \cdots + 56a - 20,\ u^6 - u^5 + 4u^4 - 3u^3 + 5u^2 - u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ -\frac{1}{3}u^5a + \frac{4}{3}u^5 + \cdots + \frac{1}{3}a - \frac{1}{3} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.333333au^5 + 0.476190u^5 + \cdots + 1.33333a + 2.09524 \\ \frac{2}{3}u^5a + \frac{1}{3}u^5 + \cdots + \frac{1}{3}a - \frac{7}{3} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5a + u^5 + u^3a - 2u^4 + 2u^2a + 5u^3 + au - 7u^2 + 6u - 3 \\ \frac{4}{3}u^5a - \frac{7}{3}u^5 + \cdots + \frac{2}{3}a + \frac{7}{3} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{1}{3}u^5a - \frac{4}{3}u^5 + \cdots + \frac{2}{3}a + \frac{1}{3} \\ -\frac{1}{3}u^5a + \frac{4}{3}u^5 + \cdots + \frac{1}{3}a - \frac{1}{3} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{3}u^5a - \frac{7}{3}u^5 + \cdots - \frac{1}{3}a + \frac{7}{3} \\ -\frac{1}{3}u^5a + \frac{7}{3}u^5 + \cdots + \frac{1}{3}a - \frac{7}{3} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{3}u^5a + \frac{5}{3}u^5 + \cdots - \frac{1}{3}a - \frac{8}{3} \\ \frac{2}{3}u^5a - \frac{8}{3}u^5 + \cdots + \frac{1}{3}a + \frac{8}{3} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^4a + 2u^5 + u^3a - 4u^4 + 8u^3 + 2au - 11u^2 + 10u - 5 \\ -\frac{7}{3}u^5a - \frac{2}{3}u^5 + \cdots + \frac{4}{3}a + \frac{11}{3} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^4a + 2u^5 + u^3a - 4u^4 + 8u^3 + 2au - 11u^2 + 10u - 5 \\ -\frac{7}{3}u^5a - \frac{2}{3}u^5 + \cdots + \frac{4}{3}a + \frac{11}{3} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^5 - 4u^4 + 19u^3 + 2u^2 + 14u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{12} + 5u^{10} + \cdots + 42u + 14$
c_2	$(u^6 + u^5 + 4u^4 + 3u^3 + 5u^2 + u + 1)^2$
c_3, c_7	$u^{12} - 2u^{11} + \cdots + 28u + 7$
c_4, c_9	$7(7u^{12} - 66u^{10} + 264u^8 - 572u^6 + 709u^4 - 477u^2 + 137)$
c_5, c_8	$7(7u^{12} + 7u^{11} + \cdots - 3u + 1)$
c_6	$(u^6 - u^5 + 4u^4 - 3u^3 + 5u^2 - u + 1)^2$
c_{11}	$(u^6 - 5u^5 + 10u^4 - 9u^3 + u^2 + u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{12} + 10y^{11} + \cdots - 280y + 196$
c_2, c_6	$(y^6 + 7y^5 + 20y^4 + 31y^3 + 27y^2 + 9y + 1)^2$
c_3, c_7	$y^{12} - 14y^{11} + \cdots - 238y + 49$
c_4, c_9	$49(7y^6 - 66y^5 + 264y^4 - 572y^3 + 709y^2 - 477y + 137)^2$
c_5, c_8	$49(49y^{12} + 399y^{11} + \cdots + 25y + 1)$
c_{11}	$(y^6 - 5y^5 + 12y^4 - 45y^3 + 79y^2 + 5y + 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.594531 + 1.108530I$ $a = 0.194027 - 0.521903I$ $b = -0.63798 - 1.31450I$	$-2.75606 - 8.49886I$	$-3.32790 + 6.69892I$
$u = 0.594531 + 1.108530I$ $a = 1.88170 + 0.26063I$ $b = 0.93018 - 1.33338I$	$-2.75606 - 8.49886I$	$-3.32790 + 6.69892I$
$u = 0.594531 - 1.108530I$ $a = 0.194027 + 0.521903I$ $b = -0.63798 + 1.31450I$	$-2.75606 + 8.49886I$	$-3.32790 - 6.69892I$
$u = 0.594531 - 1.108530I$ $a = 1.88170 - 0.26063I$ $b = 0.93018 + 1.33338I$	$-2.75606 + 8.49886I$	$-3.32790 - 6.69892I$
$u = 0.048182 + 0.510085I$ $a = -0.061872 - 0.552955I$ $b = 0.418645 + 1.257000I$	$-6.62587 + 4.61385I$	$9.30218 + 5.10701I$
$u = 0.048182 + 0.510085I$ $a = -7.42207 - 1.53777I$ $b = -1.40319 - 0.25404I$	$-6.62587 + 4.61385I$	$9.30218 + 5.10701I$
$u = 0.048182 - 0.510085I$ $a = -0.061872 + 0.552955I$ $b = 0.418645 - 1.257000I$	$-6.62587 - 4.61385I$	$9.30218 - 5.10701I$
$u = 0.048182 - 0.510085I$ $a = -7.42207 + 1.53777I$ $b = -1.40319 + 0.25404I$	$-6.62587 - 4.61385I$	$9.30218 - 5.10701I$
$u = -0.14271 + 1.54503I$ $a = 0.331160 + 0.030135I$ $b = 0.33934 + 1.85328I$	$-2.95507 + 0.81827I$	$-26.9743 + 0.5102I$
$u = -0.14271 + 1.54503I$ $a = 0.077057 - 0.242870I$ $b = 0.353013 - 0.266813I$	$-2.95507 + 0.81827I$	$-26.9743 + 0.5102I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.14271 - 1.54503I$ $a = 0.331160 - 0.030135I$ $b = 0.33934 - 1.85328I$	$-2.95507 - 0.81827I$	$-26.9743 - 0.5102I$
$u = -0.14271 - 1.54503I$ $a = 0.077057 + 0.242870I$ $b = 0.353013 + 0.266813I$	$-2.95507 - 0.81827I$	$-26.9743 - 0.5102I$

IV.

$\boldsymbol{I^u_4 = \langle -u^3 - 2u^2 + b - 2u - 1,\ u^4 + u^3 + a - u - 2,\ u^5 + 2u^4 + 3u^3 + 3u^2 + u + 1\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_5 = \begin{pmatrix} u^4 + 2u^3 + 3u^2 + 2u \\ -u^2 - u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^4 - u^3 - u^2 + 2 \\ u^4 + 2u^3 + 3u^2 + 2u + 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^4 + 2u^3 + 3u^2 + 2u \\ -u^2 - u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^4 - 2u^3 - 2u^2 - u + 1 \\ u^3 + 2u^2 + 2u + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 - 3u^3 - 4u^2 - 4u - 2 \\ -u^4 - u^3 - u^2 + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 - 3u^3 - 4u^2 - 4u - 2 \\ -u^4 - u^3 - u^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^4 + 13u^3 + 25u^2 + 15u + 9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.372466 + 1.263920I$ $a = -1.347300 + 0.010044I$ $b = -0.929085 - 0.848284I$	$3.01018 + 5.17259I$	$-1.83188 - 4.76077I$
$u = -0.372466 - 1.263920I$ $a = -1.347300 - 0.010044I$ $b = -0.929085 + 0.848284I$	$3.01018 - 5.17259I$	$-1.83188 + 4.76077I$
$u = -1.33263$ $a = -0.119827$ $b = -0.480071$	-2.14584	24.7190
$u = 0.038780 + 0.656277I$ $a = 1.90721 + 0.97967I$ $b = 0.169121 + 1.134660I$	$-0.29233 - 3.70382I$	$-0.52749 + 7.17476I$
$u = 0.038780 - 0.656277I$ $a = 1.90721 - 0.97967I$ $b = 0.169121 - 1.134660I$	$-0.29233 + 3.70382I$	$-0.52749 - 7.17476I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^5-2u^4+3u^3-3u^2+3u-1)(u^{12}+5u^{10}+\cdots+42u+14)$ $\cdot(u^{36}+2u^{35}+\cdots-144u-14)(u^{66}-u^{65}+\cdots+360u+11)$
c_2	$(u^5-2u^4+3u^3-3u^2+u-1)(u^6+u^5+4u^4+3u^3+5u^2+u+1)^2$ $\cdot((u^{33}-u^{32}+\cdots-2u+1)^2)(u^{36}+3u^{35}+\cdots+41u+8)$
c_3, c_7	$(u^5+u^4-u^3-u^2+1)(u^{12}-2u^{11}+\cdots+28u+7)(u^{36}-u^{35}+\cdots+u-7)$ $\cdot(u^{66}-11u^{65}+\cdots-3027u+484)$
c_4, c_9	$49u^5(7u^{12}-66u^{10}+264u^8-572u^6+709u^4-477u^2+137)$ $\cdot((u^{33}-13u^{31}+\cdots+60u+9)^2)(7u^{36}-27u^{35}+\cdots-32u-64)$
c_5, c_8	$49(u^5-u^3-u^2+u+1)(7u^{12}+7u^{11}+\cdots-3u+1)$ $\cdot(7u^{36}-6u^{35}+\cdots-4u+1)(u^{66}+2u^{65}+\cdots-9u+2)$
c_6	$(u^5+2u^4+3u^3+3u^2+u+1)(u^6-u^5+4u^4-3u^3+5u^2-u+1)^2$ $\cdot((u^{33}-u^{32}+\cdots-2u+1)^2)(u^{36}+3u^{35}+\cdots+41u+8)$
c_{11}	$(u^5+3u^4+5u^3+4u^2+3u+1)(u^6-5u^5+10u^4-9u^3+u^2+u+3)^2$ $\cdot((u^{33}-5u^{32}+\cdots+88u-47)^2)(u^{36}+6u^{35}+\cdots-2641u-394)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^5 + 2y^4 + 3y^3 + 5y^2 + 3y - 1)(y^{12} + 10y^{11} + \cdots - 280y + 196)$ $\cdot (y^{36} + 2y^{35} + \cdots - 2592y + 196)(y^{66} + 25y^{65} + \cdots - 60564y + 121)$
c_2, c_6	$(y^5 + 2y^4 - y^3 - 7y^2 - 5y - 1)$ $\cdot (y^6 + 7y^5 + 20y^4 + 31y^3 + 27y^2 + 9y + 1)^2$ $\cdot ((y^{33} + 21y^{32} + \cdots - 20y - 1)^2)(y^{36} + 13y^{35} + \cdots - 641y + 64)$
c_3, c_7	$(y^5 - 3y^4 + 3y^3 - 3y^2 + 2y - 1)(y^{12} - 14y^{11} + \cdots - 238y + 49)$ $\cdot (y^{36} - 9y^{35} + \cdots + 321y + 49)$ $\cdot (y^{66} - 29y^{65} + \cdots - 9905185y + 234256)$
c_4, c_9	$2401y^5(7y^6 - 66y^5 + 264y^4 - 572y^3 + 709y^2 - 477y + 137)^2$ $\cdot (y^{33} - 26y^{32} + \cdots + 828y - 81)^2$ $\cdot (49y^{36} - 1289y^{35} + \cdots - 31744y + 4096)$
c_5, c_8	$2401(y^5 - 2y^4 + \cdots + 3y - 1)(49y^{12} + 399y^{11} + \cdots + 25y + 1)$ $\cdot (49y^{36} - 456y^{35} + \cdots - 20y + 1)(y^{66} + 28y^{65} + \cdots - 41y + 4)$
c_{11}	$(y^5 + y^4 + 7y^3 + 8y^2 + y - 1)$ $\cdot (y^6 - 5y^5 + 12y^4 - 45y^3 + 79y^2 + 5y + 9)^2$ $\cdot (y^{33} - 23y^{32} + \cdots + 24852y - 2209)^2$ $\cdot (y^{36} + 4y^{35} + \cdots - 1886765y + 155236)$