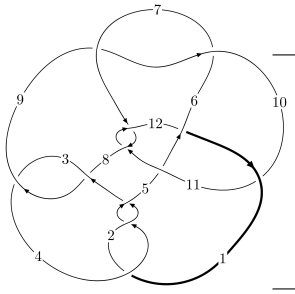
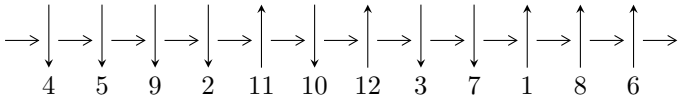
$12a_{0844}$ $(K12a_{0844})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 7.31418 \times 10^{587} u^{129} + 1.42814 \times 10^{588} u^{128} + \cdots + 1.49614 \times 10^{590} b + 2.54492 \times 10^{590}, \\
&\quad 1.23726 \times 10^{589} u^{129} + 1.96379 \times 10^{589} u^{128} + \cdots + 3.44111 \times 10^{591} a + 6.43358 \times 10^{592}, \\
&\quad u^{130} + 2u^{129} + \cdots + 4232u - 4232 \rangle \\
I_2^u &= \langle 6u^{19} + 3u^{18} + \cdots + b + 13,\ -2u^{19} + u^{18} + \cdots + a + 2,\ u^{20} + 10u^{18} + \cdots + 3u + 1 \rangle \\
I_3^u &= \langle 4u^8 + u^6 + 4u^5 + 2u^4 + 5u^3 - u^2 + 7b - u + 3, \\
&\quad -4u^8 + 7u^7 - 15u^6 + 10u^5 - 16u^4 + 9u^3 - 13u^2 + 7a + u - 3,\ u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u +
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 159 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. $\boldsymbol{I_1^u = \langle 7.31 \times 10^{587} u^{129} + 1.43 \times 10^{588} u^{128} + \cdots + 1.50 \times 10^{590} b + 2.54 \times 10^{590},\ 1.24 \times 10^{589} u^{129} + 1.96 \times 10^{589} u^{128} + \cdots + 3.44 \times 10^{591} a + 6.43 \times 10^{592},\ u^{130} + 2u^{129} + \cdots + 4232u - 4232 \rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00359551u^{129} - 0.00570685u^{128} + \cdots + 66.2600u - 18.6962 \\ -0.00488871u^{129} - 0.00954553u^{128} + \cdots + 62.4474u - 1.70099 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 0.000787540u^{129} + 0.00474240u^{128} + \cdots + 31.4660u - 17.0069 \\ 0.00284266u^{129} + 0.00595084u^{128} + \cdots + 0.0159490u - 1.74523 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00565176u^{129} - 0.00744750u^{128} + \cdots + 59.4935u - 12.5896 \\ -0.000553067u^{129} - 0.000371621u^{128} + \cdots - 1.21646u + 13.1924 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00205512u^{129} - 0.00120844u^{128} + \cdots + 31.4501u - 15.2617 \\ 0.00284266u^{129} + 0.00595084u^{128} + \cdots + 0.0159490u - 1.74523 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.00535830u^{129} + 0.0124217u^{128} + \cdots - 21.2452u - 4.11354 \\ 0.00265702u^{129} + 0.00676648u^{128} + \cdots - 32.0678u + 7.80220 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00169895u^{129} + 0.00692070u^{128} + \cdots + 8.87400u - 21.6666 \\ -0.00256817u^{129} - 0.00715091u^{128} + \cdots + 18.3812u + 9.46098 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.00831517u^{129} + 0.0204715u^{128} + \cdots - 31.2624u - 9.85356 \\ 0.00238806u^{129} + 0.00614912u^{128} + \cdots - 25.5243u + 4.50253 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00237606u^{129} + 0.00902992u^{128} + \cdots + 13.9603u - 35.8227 \\ -0.00167924u^{129} - 0.00170185u^{128} + \cdots + 43.7419u - 26.9090 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0137665u^{129} + 0.0271520u^{128} + \cdots - 158.707u - 13.2029$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{130} - 14u^{129} + \cdots + 35u - 49$
c_3, c_8	$u^{130} + u^{129} + \cdots - 60928u + 25088$
c_5	$u^{130} + u^{129} + \cdots - 15153510u - 893777$
c_6, c_9	$u^{130} - 3u^{129} + \cdots + 4534u - 71$
c_7, c_{11}	$u^{130} - 2u^{129} + \cdots - 4232u - 4232$
c_{10}	$u^{130} + 18u^{129} + \cdots - 8409u + 1079$
c_{12}	$u^{130} + 10u^{129} + \cdots - 27u - 9$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{130} - 122y^{129} + \cdots - 5929y + 2401$
c_3, c_8	$y^{130} - 69y^{129} + \cdots - 11984437248y + 629407744$
c_5	$y^{130} + 13y^{129} + \cdots + 20581982318772y + 798837325729$
c_6, c_9	$y^{130} + 81y^{129} + \cdots - 16239788y + 5041$
c_7, c_{11}	$y^{130} + 86y^{129} + \cdots + 519774240y + 17909824$
c_{10}	$y^{130} - 26y^{129} + \cdots - 102045441y + 1164241$
c_{12}	$y^{130} - 6y^{129} + \cdots + 2151y + 81$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.207403+0.977252I$ $a=-2.13432+1.44213I$ $b=-1.29939+0.83567I$	$-5.39383-0.67456I$	0
$u=-0.207403-0.977252I$ $a=-2.13432-1.44213I$ $b=-1.29939-0.83567I$	$-5.39383+0.67456I$	0
$u=\ 0.870481+0.482230I$ $a=\ 0.136852+0.115419I$ $b=-1.231720-0.550774I$	$-7.57713-2.60992I$	0
$u=\ 0.870481-0.482230I$ $a=\ 0.136852-0.115419I$ $b=-1.231720+0.550774I$	$-7.57713+2.60992I$	0
$u=-0.207306+0.968285I$ $a=\ 0.552789-1.258600I$ $b=\ 0.851569-0.056422I$	$-1.20363-3.45389I$	0
$u=-0.207306-0.968285I$ $a=\ 0.552789+1.258600I$ $b=\ 0.851569+0.056422I$	$-1.20363+3.45389I$	0
$u=\ 0.045460+0.986316I$ $a=\ 0.031164+1.041930I$ $b=\ 0.420336-0.550031I$	$-4.06225+0.19731I$	0
$u=\ 0.045460-0.986316I$ $a=\ 0.031164-1.041930I$ $b=\ 0.420336+0.550031I$	$-4.06225-0.19731I$	0
$u=\ 0.355513+0.900991I$ $a=\ 0.542870-0.433386I$ $b=-0.353756+0.490944I$	$3.12587+4.37430I$	0
$u=\ 0.355513-0.900991I$ $a=\ 0.542870+0.433386I$ $b=-0.353756-0.490944I$	$3.12587-4.37430I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.052715 + 1.033720I$ $a = -0.288223 + 0.352604I$ $b = 0.134358 + 0.922567I$	$-1.62444 - 1.37557I$	0
$u = 0.052715 - 1.033720I$ $a = -0.288223 - 0.352604I$ $b = 0.134358 - 0.922567I$	$-1.62444 + 1.37557I$	0
$u = -0.959148 + 0.078977I$ $a = 1.057860 - 0.294072I$ $b = -1.78753 + 0.77001I$	$1.39635 + 3.23709I$	0
$u = -0.959148 - 0.078977I$ $a = 1.057860 + 0.294072I$ $b = -1.78753 - 0.77001I$	$1.39635 - 3.23709I$	0
$u = -0.140669 + 1.028800I$ $a = -2.12933 - 0.04020I$ $b = -0.645111 - 0.983937I$	$-2.45297 - 3.70553I$	0
$u = -0.140669 - 1.028800I$ $a = -2.12933 + 0.04020I$ $b = -0.645111 + 0.983937I$	$-2.45297 + 3.70553I$	0
$u = 0.523222 + 0.802656I$ $a = 2.49879 + 4.67344I$ $b = 4.65998 + 0.06588I$	$-0.42547 + 2.53758I$	0
$u = 0.523222 - 0.802656I$ $a = 2.49879 - 4.67344I$ $b = 4.65998 - 0.06588I$	$-0.42547 - 2.53758I$	0
$u = 0.309325 + 0.872790I$ $a = -2.03045 - 1.07152I$ $b = -0.499650 - 0.281157I$	$-8.13468 + 7.32693I$	0
$u = 0.309325 - 0.872790I$ $a = -2.03045 + 1.07152I$ $b = -0.499650 + 0.281157I$	$-8.13468 - 7.32693I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.009940 + 0.380275I$ $a = -0.749459 - 0.478953I$ $b = 0.790741 + 0.283640I$	$5.03065 - 2.91197I$	0
$u = 1.009940 - 0.380275I$ $a = -0.749459 + 0.478953I$ $b = 0.790741 - 0.283640I$	$5.03065 + 2.91197I$	0
$u = 0.556506 + 0.727484I$ $a = 0.297857 - 0.675164I$ $b = -0.389439 + 0.331391I$	$3.62319 - 0.56871I$	0
$u = 0.556506 - 0.727484I$ $a = 0.297857 + 0.675164I$ $b = -0.389439 - 0.331391I$	$3.62319 + 0.56871I$	0
$u = -0.541139 + 0.952132I$ $a = 0.147250 + 0.918610I$ $b = -0.178510 + 0.299329I$	$1.88655 - 1.65023I$	0
$u = -0.541139 - 0.952132I$ $a = 0.147250 - 0.918610I$ $b = -0.178510 - 0.299329I$	$1.88655 + 1.65023I$	0
$u = -0.290943 + 1.071750I$ $a = 0.359265 + 0.121506I$ $b = 0.669032 - 0.344390I$	$-1.67452 - 3.13091I$	0
$u = -0.290943 - 1.071750I$ $a = 0.359265 - 0.121506I$ $b = 0.669032 + 0.344390I$	$-1.67452 + 3.13091I$	0
$u = 0.296795 + 1.075410I$ $a = -2.91041 - 0.47249I$ $b = -2.50052 + 0.95290I$	$1.16491 + 5.17903I$	0
$u = 0.296795 - 1.075410I$ $a = -2.91041 + 0.47249I$ $b = -2.50052 - 0.95290I$	$1.16491 - 5.17903I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.750310+0.427363I$ $a=\ \ 0.068052+0.564511I$ $b=\ \ 0.697843+0.441677I$	$-1.53269-6.33362I$	0
$u=-0.750310-0.427363I$ $a=\ \ 0.068052-0.564511I$ $b=\ \ 0.697843-0.441677I$	$-1.53269+6.33362I$	0
$u=\ \ 0.016383+0.861091I$ $a=\ \ 2.51607+0.55432I$ $b=\ \ 0.481827+0.674512I$	$-1.42660+2.83814I$	0
$u=\ \ 0.016383-0.861091I$ $a=\ \ 2.51607-0.55432I$ $b=\ \ 0.481827-0.674512I$	$-1.42660-2.83814I$	0
$u=-0.666858+0.939090I$ $a=-0.214878+0.171005I$ $b=-0.409765+0.257143I$	$0.38694-2.59415I$	0
$u=-0.666858-0.939090I$ $a=-0.214878-0.171005I$ $b=-0.409765-0.257143I$	$0.38694+2.59415I$	0
$u=\ \ 1.172230+0.057028I$ $a=\ \ 0.688708+1.000700I$ $b=-1.222240-0.451724I$	$0.47369-5.68832I$	0
$u=\ \ 1.172230-0.057028I$ $a=\ \ 0.688708-1.000700I$ $b=-1.222240+0.451724I$	$0.47369+5.68832I$	0
$u=-0.646682+0.508924I$ $a=-0.607220+0.928340I$ $b=-1.117150-0.578316I$	$0.75859-3.24972I$	0
$u=-0.646682-0.508924I$ $a=-0.607220-0.928340I$ $b=-1.117150+0.578316I$	$0.75859+3.24972I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.306526+0.755382I$ $a=-0.326678-0.381872I$ $b=-0.881679-0.168136I$	$-4.78653-1.59407I$	0
$u=-0.306526-0.755382I$ $a=-0.326678+0.381872I$ $b=-0.881679+0.168136I$	$-4.78653+1.59407I$	0
$u=0.788563+0.204340I$ $a=0.534729+0.656471I$ $b=1.170900-0.040856I$	$-6.57708-7.15153I$	0
$u=0.788563-0.204340I$ $a=0.534729-0.656471I$ $b=1.170900+0.040856I$	$-6.57708+7.15153I$	0
$u=0.067187+0.805703I$ $a=3.65880-1.74203I$ $b=1.37055-1.72420I$	$0.47179+1.76850I$	0
$u=0.067187-0.805703I$ $a=3.65880+1.74203I$ $b=1.37055+1.72420I$	$0.47179-1.76850I$	0
$u=0.071155+1.217340I$ $a=1.093210+0.732066I$ $b=0.782484-0.448149I$	$-4.64544+1.87466I$	0
$u=0.071155-1.217340I$ $a=1.093210-0.732066I$ $b=0.782484+0.448149I$	$-4.64544-1.87466I$	0
$u=-0.220315+1.200090I$ $a=-1.96529-0.03345I$ $b=-1.327500-0.345449I$	$-0.99196-4.71706I$	0
$u=-0.220315-1.200090I$ $a=-1.96529+0.03345I$ $b=-1.327500+0.345449I$	$-0.99196+4.71706I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.813144 + 0.914977I$ $a = -0.183806 - 0.173935I$ $b = 0.358860 + 0.079720I$	$1.52846 + 7.35278I$	0
$u = 0.813144 - 0.914977I$ $a = -0.183806 + 0.173935I$ $b = 0.358860 - 0.079720I$	$1.52846 - 7.35278I$	0
$u = -0.759942$ $a = 0.944622$ $b = 0.523634$	-2.56238	-1.14050
$u = 0.010388 + 1.247310I$ $a = 1.65859 - 0.36936I$ $b = 1.80529 - 1.08613I$	$-4.78176 + 1.13220I$	0
$u = 0.010388 - 1.247310I$ $a = 1.65859 + 0.36936I$ $b = 1.80529 + 1.08613I$	$-4.78176 - 1.13220I$	0
$u = -0.721881 + 1.025220I$ $a = -0.015244 - 0.728804I$ $b = -0.0448569 - 0.0263149I$	$-3.08113 + 0.81431I$	0
$u = -0.721881 - 1.025220I$ $a = -0.015244 + 0.728804I$ $b = -0.0448569 + 0.0263149I$	$-3.08113 - 0.81431I$	0
$u = 0.309343 + 1.237480I$ $a = 1.89400 + 0.83926I$ $b = 2.28057 - 0.00970I$	$-5.66140 + 2.87702I$	0
$u = 0.309343 - 1.237480I$ $a = 1.89400 - 0.83926I$ $b = 2.28057 + 0.00970I$	$-5.66140 - 2.87702I$	0
$u = 0.265868 + 1.248280I$ $a = 2.24133 + 0.22130I$ $b = 2.26417 - 0.63628I$	$-4.41116 + 8.47604I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.265868 - 1.248280I$ $a = 2.24133 - 0.22130I$ $b = 2.26417 + 0.63628I$	$-4.41116 - 8.47604I$	0
$u = -1.274750 + 0.149399I$ $a = -0.629685 - 0.215734I$ $b = 2.13894 - 0.43531I$	$3.35673 + 7.72625I$	0
$u = -1.274750 - 0.149399I$ $a = -0.629685 + 0.215734I$ $b = 2.13894 + 0.43531I$	$3.35673 - 7.72625I$	0
$u = 0.439475 + 1.206410I$ $a = -1.61258 - 1.11031I$ $b = -2.07853 - 0.22200I$	$-4.00841 + 7.89339I$	0
$u = 0.439475 - 1.206410I$ $a = -1.61258 + 1.11031I$ $b = -2.07853 + 0.22200I$	$-4.00841 - 7.89339I$	0
$u = 0.596326 + 1.151090I$ $a = -0.118605 + 0.317783I$ $b = 0.077208 - 0.472785I$	$2.56590 + 8.61563I$	0
$u = 0.596326 - 1.151090I$ $a = -0.118605 - 0.317783I$ $b = 0.077208 + 0.472785I$	$2.56590 - 8.61563I$	0
$u = -0.385070 + 1.240120I$ $a = -0.444387 - 0.153876I$ $b = -0.861742 + 0.514358I$	$-6.87980 - 5.59995I$	0
$u = -0.385070 - 1.240120I$ $a = -0.444387 + 0.153876I$ $b = -0.861742 - 0.514358I$	$-6.87980 + 5.59995I$	0
$u = 1.050980 + 0.804516I$ $a = 0.321098 + 0.405591I$ $b = -0.288639 - 0.548025I$	$1.95452 - 0.73217I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.050980 - 0.804516I$ $a = 0.321098 - 0.405591I$ $b = -0.288639 + 0.548025I$	$1.95452 + 0.73217I$	0
$u = 0.297996 + 0.596894I$ $a = -0.54817 + 1.51250I$ $b = 1.05023 + 1.30928I$	$-0.131132 + 1.178100I$	$-1.130855 - 0.687358I$
$u = 0.297996 - 0.596894I$ $a = -0.54817 - 1.51250I$ $b = 1.05023 - 1.30928I$	$-0.131132 - 1.178100I$	$-1.130855 + 0.687358I$
$u = 0.537857 + 1.232880I$ $a = 1.39056 + 1.09863I$ $b = 1.89489 + 0.20264I$	$-9.7181 + 12.1998I$	0
$u = 0.537857 - 1.232880I$ $a = 1.39056 - 1.09863I$ $b = 1.89489 - 0.20264I$	$-9.7181 - 12.1998I$	0
$u = -0.447868 + 0.446054I$ $a = -0.179300 - 0.673744I$ $b = -0.583300 - 0.734247I$	$3.14662 - 2.57828I$	$3.70857 + 3.51309I$
$u = -0.447868 - 0.446054I$ $a = -0.179300 + 0.673744I$ $b = -0.583300 + 0.734247I$	$3.14662 + 2.57828I$	$3.70857 - 3.51309I$
$u = -0.619320 + 0.098741I$ $a = 0.64193 - 1.63021I$ $b = 0.111781 - 0.294175I$	$-2.97910 - 1.77302I$	$-5.16591 + 3.41651I$
$u = -0.619320 - 0.098741I$ $a = 0.64193 + 1.63021I$ $b = 0.111781 + 0.294175I$	$-2.97910 + 1.77302I$	$-5.16591 - 3.41651I$
$u = -0.246238 + 1.353050I$ $a = 1.73313 - 0.06279I$ $b = 1.43771 + 0.98489I$	$-12.25150 - 6.55987I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.246238-1.353050I$ $a=\ \ 1.73313+0.06279I$ $b=\ \ 1.43771-0.98489I$	$-12.25150+6.55987I$	0
$u=-0.329709+1.346510I$ $a=\ \ 1.69685-0.19298I$ $b=\ \ 1.74640+0.33574I$	$-6.71754-9.96409I$	0
$u=-0.329709-1.346510I$ $a=\ \ 1.69685+0.19298I$ $b=\ \ 1.74640-0.33574I$	$-6.71754+9.96409I$	0
$u=\ \ 0.615817+1.246730I$ $a=-1.61173-0.21772I$ $b=-1.13458+2.31191I$	$-2.89630+0.85409I$	0
$u=\ \ 0.615817-1.246730I$ $a=-1.61173+0.21772I$ $b=-1.13458-2.31191I$	$-2.89630-0.85409I$	0
$u=\ \ 0.599539+0.031257I$ $a=-0.134478-1.293650I$ $b=-1.000210+0.123339I$	$-0.63869-3.79000I$	$-3.28691+6.67650I$
$u=\ \ 0.599539-0.031257I$ $a=-0.134478+1.293650I$ $b=-1.000210-0.123339I$	$-0.63869+3.79000I$	$-3.28691-6.67650I$
$u=-0.526568+1.297290I$ $a=-1.84964+0.47697I$ $b=-1.97035-1.49638I$	$-2.38605-8.61930I$	0
$u=-0.526568-1.297290I$ $a=-1.84964-0.47697I$ $b=-1.97035+1.49638I$	$-2.38605+8.61930I$	0
$u=-1.281120+0.570799I$ $a=-0.023425-0.158691I$ $b=\ \ 1.51149-0.04289I$	$-5.37237-2.41269I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.281120-0.570799I$ $a=-0.023425+0.158691I$ $b=\ \ 1.51149+0.04289I$	$-5.37237+2.41269I$	0
$u=\ \ 0.527514+0.253658I$ $a=-0.797736-0.405039I$ $b=\ \ 0.920390+0.384396I$	$-1.385150-0.269456I$	$-6.74039+0.20784I$
$u=\ \ 0.527514-0.253658I$ $a=-0.797736+0.405039I$ $b=\ \ 0.920390-0.384396I$	$-1.385150+0.269456I$	$-6.74039-0.20784I$
$u=-0.40824+1.38572I$ $a=-1.26301+0.82009I$ $b=-2.21976+0.37082I$	$-2.96488-2.11966I$	0
$u=-0.40824-1.38572I$ $a=-1.26301-0.82009I$ $b=-2.21976-0.37082I$	$-2.96488+2.11966I$	0
$u=-0.73422+1.25225I$ $a=\ \ 0.343833-0.161391I$ $b=\ \ 0.770766-0.683082I$	$-4.71583-3.31857I$	0
$u=-0.73422-1.25225I$ $a=\ \ 0.343833+0.161391I$ $b=\ \ 0.770766+0.683082I$	$-4.71583+3.31857I$	0
$u=-0.152962+0.522678I$ $a=\ \ 0.052409+1.203110I$ $b=\ \ 0.483156+1.065560I$	$-0.169062+1.292200I$	$-1.82953+1.55175I$
$u=-0.152962-0.522678I$ $a=\ \ 0.052409-1.203110I$ $b=\ \ 0.483156-1.065560I$	$-0.169062-1.292200I$	$-1.82953-1.55175I$
$u=\ \ 0.57273+1.34557I$ $a=\ \ 0.043546-0.393122I$ $b=-0.046931+0.648616I$	$-3.56917+11.75340I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.57273 - 1.34557I$ $a = 0.043546 + 0.393122I$ $b = -0.046931 - 0.648616I$	$-3.56917 - 11.75340I$	0
$u = 0.21861 + 1.45249I$ $a = -1.55078 - 0.43115I$ $b = -1.99666 + 0.19901I$	$-13.95940 + 1.16927I$	0
$u = 0.21861 - 1.45249I$ $a = -1.55078 + 0.43115I$ $b = -1.99666 - 0.19901I$	$-13.95940 - 1.16927I$	0
$u = -1.46184 + 0.14608I$ $a = 0.403978 + 0.285131I$ $b = -2.20414 + 0.22320I$	$-2.13477 + 11.78310I$	0
$u = -1.46184 - 0.14608I$ $a = 0.403978 - 0.285131I$ $b = -2.20414 - 0.22320I$	$-2.13477 - 11.78310I$	0
$u = 0.83100 + 1.21302I$ $a = 1.51363 + 0.78715I$ $b = 1.65210 - 2.11701I$	$-2.38061 + 5.66774I$	0
$u = 0.83100 - 1.21302I$ $a = 1.51363 - 0.78715I$ $b = 1.65210 + 2.11701I$	$-2.38061 - 5.66774I$	0
$u = -0.63063 + 1.35580I$ $a = 1.67755 - 0.66075I$ $b = 2.30117 + 1.31250I$	$-0.4865 - 14.3089I$	0
$u = -0.63063 - 1.35580I$ $a = 1.67755 + 0.66075I$ $b = 2.30117 - 1.31250I$	$-0.4865 + 14.3089I$	0
$u = -0.496424 + 0.067253I$ $a = -0.814201 + 0.734293I$ $b = -0.176043 + 0.243992I$	$1.35306 - 0.46632I$	$5.92593 + 0.52773I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.496424-0.067253I$ $a=-0.814201-0.734293I$ $b=-0.176043-0.243992I$	$1.35306+0.46632I$	$5.92593-0.52773I$
$u=0.27528+1.53209I$ $a=-0.326210-0.865487I$ $b=-1.56706-2.53672I$	$-5.23503+0.36072I$	0
$u=0.27528-1.53209I$ $a=-0.326210+0.865487I$ $b=-1.56706+2.53672I$	$-5.23503-0.36072I$	0
$u=0.49715+1.47956I$ $a=1.149740+0.115198I$ $b=0.98122-1.87029I$	$-9.92744-2.15814I$	0
$u=0.49715-1.47956I$ $a=1.149740-0.115198I$ $b=0.98122+1.87029I$	$-9.92744+2.15814I$	0
$u=0.114561+0.422618I$ $a=0.04206-1.51538I$ $b=-0.990252-0.965223I$	$3.19605-2.75030I$	$3.06253-0.82065I$
$u=0.114561-0.422618I$ $a=0.04206+1.51538I$ $b=-0.990252+0.965223I$	$3.19605+2.75030I$	$3.06253+0.82065I$
$u=-0.68600+1.42782I$ $a=-1.50251+0.67794I$ $b=-2.37448-1.09688I$	$-6.2538-19.1081I$	0
$u=-0.68600-1.42782I$ $a=-1.50251-0.67794I$ $b=-2.37448+1.09688I$	$-6.2538+19.1081I$	0
$u=0.004684+0.408362I$ $a=0.302795+1.341510I$ $b=1.054940+0.893360I$	$-1.18088-6.70646I$	$-4.08150-4.57276I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.004684 - 0.408362I$ $a = 0.302795 - 1.341510I$ $b = 1.054940 - 0.893360I$	$-1.18088 + 6.70646I$	$-4.08150 + 4.57276I$
$u = -0.66292 + 1.46328I$ $a = 0.992938 - 0.740700I$ $b = 1.88185 + 0.17259I$	$-8.72321 - 5.31358I$	0
$u = -0.66292 - 1.46328I$ $a = 0.992938 + 0.740700I$ $b = 1.88185 - 0.17259I$	$-8.72321 + 5.31358I$	0
$u = 0.97842 + 1.30276I$ $a = -1.17137 - 0.82987I$ $b = -1.62857 + 1.80768I$	$-8.70050 + 9.40227I$	0
$u = 0.97842 - 1.30276I$ $a = -1.17137 + 0.82987I$ $b = -1.62857 - 1.80768I$	$-8.70050 - 9.40227I$	0
$u = 0.311547$ $a = -2.15815$ $b = 0.727000$	-1.15012	-10.3680
$u = -0.17602 + 1.70075I$ $a = 1.44258 - 0.11537I$ $b = 3.36651 + 0.80561I$	$-3.37537 + 1.30670I$	0
$u = -0.17602 - 1.70075I$ $a = 1.44258 + 0.11537I$ $b = 3.36651 - 0.80561I$	$-3.37537 - 1.30670I$	0
$u = -0.28889 + 1.89577I$ $a = -1.058340 + 0.167814I$ $b = -2.66309 - 1.00421I$	$-9.16387 + 4.05703I$	0
$u = -0.28889 - 1.89577I$ $a = -1.058340 - 0.167814I$ $b = -2.66309 + 1.00421I$	$-9.16387 - 4.05703I$	0

II.

$\boldsymbol{I_2^u = \langle 6u^{19}+3u^{18}+\cdots+b+13,\ -2u^{19}+u^{18}+\cdots+a+2,\ u^{20}+10u^{18}+\cdots+3u+1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 2u^{19} - u^{18} + \cdots + u - 2 \\ -6u^{19} - 3u^{18} + \cdots - 38u - 13 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^{19} - u^{18} + \cdots + 7u + 2 \\ u^{19} + 10u^{17} + \cdots + 12u + 3 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 11u^{19} + 107u^{17} + \cdots + 55u + 13 \\ 6u^{19} - 9u^{18} + \cdots - 7u - 14 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{18} - 9u^{16} + \cdots - 5u - 1 \\ u^{19} + 10u^{17} + \cdots + 12u + 3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{19} + 9u^{17} + \cdots + u - 1 \\ -3u^{19} + u^{18} + \cdots - 14u + 3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2u^{18} + 19u^{16} + \cdots + 10u + 3 \\ -u^{19} - u^{18} + \cdots - 15u - 4 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u^{19} + 9u^{17} + \cdots + 5u^2 + u \\ -3u^{19} + u^{18} + \cdots - 14u + 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -5u^{19} + 2u^{18} + \cdots - 17u - 4 \\ -9u^{19} + 5u^{18} + \cdots - 16u + 7 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= 45u^{19} - 24u^{18} + 450u^{17} - 100u^{16} + 1858u^{15} + 99u^{14} + 4342u^{13} + 1215u^{12} + 6677u^{11} + 2779u^{10} + 7228u^9 + 3175u^8 + 5442u^7 + 2099u^6 + 2685u^5 + 752u^4 + 842u^3 + 115u^2 + 129u - 17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$u^{20} + 4u^{19} + \cdots - 5u + 1$
c_3	$u^{20} - 6u^{18} + \cdots - 3u + 1$
c_4	$u^{20} - 4u^{19} + \cdots + 5u + 1$
c_5	$u^{20} - 3u^{19} + \cdots + 5u^3 + 1$
c_6	$u^{20} - 3u^{19} + \cdots + 10u^2 + 1$
c_7	$u^{20} + 10u^{18} + \cdots + 3u + 1$
c_8	$u^{20} - 6u^{18} + \cdots + 3u + 1$
c_9	$u^{20} + 3u^{19} + \cdots + 10u^2 + 1$
c_{10}	$u^{20} - 4u^{18} + \cdots + 5u + 1$
c_{11}	$u^{20} + 10u^{18} + \cdots - 3u + 1$
c_{12}	$u^{20} - 5u^{17} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{20} - 20y^{19} + \cdots - y + 1$
c_3, c_8	$y^{20} - 12y^{19} + \cdots - 9y + 1$
c_5	$y^{20} - 5y^{19} + \cdots + 6y^2 + 1$
c_6, c_9	$y^{20} + 15y^{19} + \cdots + 20y + 1$
c_7, c_{11}	$y^{20} + 20y^{19} + \cdots + 15y + 1$
c_{10}	$y^{20} - 8y^{19} + \cdots - 5y + 1$
c_{12}	$y^{20} + 6y^{18} + \cdots - 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.329203 + 1.094160I$ $a = 2.14620 + 0.32651I$ $b = 1.22206 - 0.80890I$	$-1.53784 + 4.32358I$	$-6.41394 - 6.31106I$
$u = 0.329203 - 1.094160I$ $a = 2.14620 - 0.32651I$ $b = 1.22206 + 0.80890I$	$-1.53784 - 4.32358I$	$-6.41394 + 6.31106I$
$u = -0.457051 + 0.680670I$ $a = -1.47560 - 0.75165I$ $b = -0.443653 - 0.900964I$	$1.16478 - 2.39395I$	$1.54588 + 3.97709I$
$u = -0.457051 - 0.680670I$ $a = -1.47560 + 0.75165I$ $b = -0.443653 + 0.900964I$	$1.16478 + 2.39395I$	$1.54588 - 3.97709I$
$u = -0.574386 + 0.534332I$ $a = 0.980231 + 0.358160I$ $b = 0.826345 + 0.385404I$	$-3.84276 - 1.04802I$	$-4.21027 + 1.93550I$
$u = -0.574386 - 0.534332I$ $a = 0.980231 - 0.358160I$ $b = 0.826345 - 0.385404I$	$-3.84276 + 1.04802I$	$-4.21027 - 1.93550I$
$u = 0.371455 + 0.685308I$ $a = 4.10221 - 5.25780I$ $b = -1.58450 - 4.16112I$	$-0.30091 + 3.00431I$	$3.31212 + 12.78342I$
$u = 0.371455 - 0.685308I$ $a = 4.10221 + 5.25780I$ $b = -1.58450 + 4.16112I$	$-0.30091 - 3.00431I$	$3.31212 - 12.78342I$
$u = -0.163354 + 1.255280I$ $a = -0.694587 + 0.456216I$ $b = -0.682571 - 0.835680I$	$-4.47222 - 1.54255I$	$-4.86257 - 3.43959I$
$u = -0.163354 - 1.255280I$ $a = -0.694587 - 0.456216I$ $b = -0.682571 + 0.835680I$	$-4.47222 + 1.54255I$	$-4.86257 + 3.43959I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.211407+0.674773I$ $a=\ 0.153610-0.354903I$ $b=\ 0.814387+0.670029I$	$2.73376-3.43447I$	$-1.29601+4.99499I$
$u=-0.211407-0.674773I$ $a=\ 0.153610+0.354903I$ $b=\ 0.814387-0.670029I$	$2.73376+3.43447I$	$-1.29601-4.99499I$
$u=\ 0.591819+1.167140I$ $a=-1.65614-0.78307I$ $b=-1.37496+0.87177I$	$-8.01378+8.58732I$	$-5.27072-5.92160I$
$u=\ 0.591819-1.167140I$ $a=-1.65614+0.78307I$ $b=-1.37496-0.87177I$	$-8.01378-8.58732I$	$-5.27072+5.92160I$
$u=-0.220491+0.519453I$ $a=-0.534636-0.251741I$ $b=-1.016770-0.802496I$	$-1.21585-7.07402I$	$-6.1302+16.7431I$
$u=-0.220491-0.519453I$ $a=-0.534636+0.251741I$ $b=-1.016770+0.802496I$	$-1.21585+7.07402I$	$-6.1302-16.7431I$
$u=\ 0.09236+1.53921I$ $a=-1.64944+0.37517I$ $b=-3.01493+1.40555I$	$-3.72172-0.64910I$	$-8.97978-3.00915I$
$u=\ 0.09236-1.53921I$ $a=-1.64944-0.37517I$ $b=-3.01493-1.40555I$	$-3.72172+0.64910I$	$-8.97978+3.00915I$
$u=\ 0.24185+1.69545I$ $a=\ 1.128150-0.070054I$ $b=\ 1.75459-1.46603I$	$-10.40230-2.81932I$	$-12.19450+3.27289I$
$u=\ 0.24185-1.69545I$ $a=\ 1.128150+0.070054I$ $b=\ 1.75459+1.46603I$	$-10.40230+2.81932I$	$-12.19450-3.27289I$

III. $I_3^u = \langle 4u^8+u^6+4u^5+2u^4+5u^3-u^2+7b-u+3,\ -4u^8+7u^7+\cdots+7a-3,\ u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}\frac{4}{7}u^8-u^7+\cdots-\frac{1}{7}u+\frac{3}{7}\\-\frac{4}{7}u^8-\frac{1}{7}u^6+\cdots+\frac{1}{7}u-\frac{3}{7}\end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix}\frac{4}{7}u^8-u^7+\cdots-\frac{1}{7}u+\frac{3}{7}\\-\frac{4}{7}u^8-\frac{1}{7}u^6+\cdots+\frac{1}{7}u-\frac{3}{7}\end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix}u^8+u^6+u^4-1\\-u^8+u^7-u^6+2u^5-u^4+2u^3+2u+1\end{pmatrix}$$

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

$$a_5 = \begin{pmatrix}-u^8-u^6-u^4+1\\u^8-u^7+u^6-2u^5+u^4-2u^3-2u-1\end{pmatrix}$$

$$a_2 = \begin{pmatrix}\frac{11}{7}u^8-u^7+\cdots-\frac{1}{7}u-\frac{4}{7}\\-\frac{11}{7}u^8+u^7+\cdots+\frac{15}{7}u+\frac{4}{7}\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{5}{49}u^8-\frac{16}{7}u^7+\frac{241}{49}u^6-\frac{184}{49}u^5+\frac{307}{49}u^4-\frac{342}{49}u^3+\frac{361}{49}u^2+\frac{95}{49}u+\frac{30}{49}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^9$
c_3, c_8	u^9
c_4	$(u+1)^9$
c_5, c_{10}	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_6	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_7	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_9	$u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1$
c_{11}	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_{12}	$u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^9$
c_3, c_8	y^9
c_5, c_{10}	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_6, c_9	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_7, c_{11}	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_{12}	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.140343+0.966856I$ $a=-0.903964+0.094390I$ $b=-0.852846-0.158943I$	$-3.42837-2.09337I$	$-6.52230+4.24226I$
$u=-0.140343-0.966856I$ $a=-0.903964-0.094390I$ $b=-0.852846+0.158943I$	$-3.42837+2.09337I$	$-6.52230-4.24226I$
$u=-0.628449+0.875112I$ $a=\ \ 0.53175+1.59553I$ $b=-1.55776+1.17662I$	$-1.02799-2.45442I$	$-8.21790+4.39771I$
$u=-0.628449-0.875112I$ $a=\ \ 0.53175-1.59553I$ $b=-1.55776-1.17662I$	$-1.02799+2.45442I$	$-8.21790-4.39771I$
$u=\ \ 0.796005+0.733148I$ $a=-0.476406+0.294981I$ $b=\ \ 0.390088+0.527698I$	$2.72642-1.33617I$	$0.84367+3.27176I$
$u=\ \ 0.796005-0.733148I$ $a=-0.476406-0.294981I$ $b=\ \ 0.390088-0.527698I$	$2.72642+1.33617I$	$0.84367-3.27176I$
$u=\ \ 0.728966+0.986295I$ $a=\ \ 0.352455-0.113243I$ $b=-0.007269-0.556797I$	$1.95319+7.08493I$	$3.61934-1.74309I$
$u=\ \ 0.728966-0.986295I$ $a=\ \ 0.352455+0.113243I$ $b=-0.007269+0.556797I$	$1.95319-7.08493I$	$3.61934+1.74309I$
$u=-0.512358$ $a=\ \ 1.42091$ $b=-0.373004$	-0.446489	3.16660

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^9)(u^{20}+4u^{19}+\cdots-5u+1)(u^{130}-14u^{129}+\cdots+35u-49)$
c_3	$u^9(u^{20}-6u^{18}+\cdots-3u+1)(u^{130}+u^{129}+\cdots-60928u+25088)$
c_4	$((u+1)^9)(u^{20}-4u^{19}+\cdots+5u+1)(u^{130}-14u^{129}+\cdots+35u-49)$
c_5	$(u^9-u^8+\cdots-u+1)(u^{20}-3u^{19}+\cdots+5u^3+1)$ $\cdot(u^{130}+u^{129}+\cdots-15153510u-893777)$
c_6	$(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{20}-3u^{19}+\cdots+10u^2+1)(u^{130}-3u^{129}+\cdots+4534u-71)$
c_7	$(u^9-u^8+\cdots+u+1)(u^{20}+10u^{18}+\cdots+3u+1)$ $\cdot(u^{130}-2u^{129}+\cdots-4232u-4232)$
c_8	$u^9(u^{20}-6u^{18}+\cdots+3u+1)(u^{130}+u^{129}+\cdots-60928u+25088)$
c_9	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{20}+3u^{19}+\cdots+10u^2+1)(u^{130}-3u^{129}+\cdots+4534u-71)$
c_{10}	$(u^9-u^8+\cdots-u+1)(u^{20}-4u^{18}+\cdots+5u+1)$ $\cdot(u^{130}+18u^{129}+\cdots-8409u+1079)$
c_{11}	$(u^9+u^8+\cdots+u-1)(u^{20}+10u^{18}+\cdots-3u+1)$ $\cdot(u^{130}-2u^{129}+\cdots-4232u-4232)$
c_{12}	$(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{20}-5u^{17}+\cdots+3u+1)(u^{130}+10u^{129}+\cdots-27u-9)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$((y-1)^9)(y^{20}-20y^{19}+\cdots-y+1)$ $\cdot(y^{130}-122y^{129}+\cdots-5929y+2401)$
c_3, c_8	$y^9(y^{20}-12y^{19}+\cdots-9y+1)$ $\cdot(y^{130}-69y^{129}+\cdots-11984437248y+629407744)$
c_5	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{20}-5y^{19}+\cdots+6y^2+1)$ $\cdot(y^{130}+13y^{129}+\cdots+20581982318772y+798837325729)$
c_6, c_9	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{20}+15y^{19}+\cdots+20y+1)$ $\cdot(y^{130}+81y^{129}+\cdots-16239788y+5041)$
c_7, c_{11}	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{20}+20y^{19}+\cdots+15y+1)$ $\cdot(y^{130}+86y^{129}+\cdots+519774240y+17909824)$
c_{10}	$(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{20}-8y^{19}+\cdots-5y+1)$ $\cdot(y^{130}-26y^{129}+\cdots-102045441y+1164241)$
c_{12}	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{20}+6y^{18}+\cdots-5y+1)(y^{130}-6y^{129}+\cdots+2151y+81)$