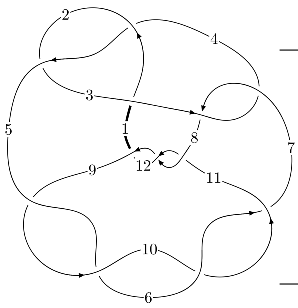
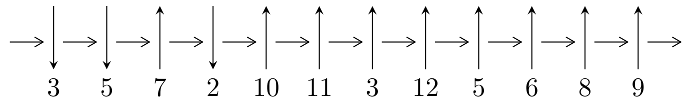
$12n_{0190}$ ($K12n_{0190}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 9.44661 \times 10^{16} u^{34} - 2.08351 \times 10^{16} u^{33} + \cdots + 1.06489 \times 10^{17} b - 4.51309 \times 10^{16},$$
$$1.88308 \times 10^{16} u^{34} - 8.66830 \times 10^{16} u^{33} + \cdots + 1.06489 \times 10^{17} a - 2.62684 \times 10^{17},\ u^{35} - 2u^{34} + \cdots - 3u^2 +$$
$$I_2^u = \langle b + u + 1,\ u^2 + a - 3,\ u^3 + u^2 - 2u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 38 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 9.45\times10^{16}u^{34}-2.08\times10^{16}u^{33}+\cdots+1.06\times10^{17}b-4.51\times10^{16},\ 1.88\times10^{16}u^{34}-8.67\times10^{16}u^{33}+\cdots+1.06\times10^{17}a-2.63\times10^{17},\ u^{35}-2u^{34}+\cdots-3u^2+1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.176834u^{34} + 0.814012u^{33} + \cdots + 2.45226u + 2.46678 \\ -0.887101u^{34} + 0.195656u^{33} + \cdots + 0.405852u + 0.423810 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.833303u^{34} - 1.64324u^{33} + \cdots - 2.63958u + 0.00424027 \\ 0.474997u^{34} - 0.230903u^{33} + \cdots - 0.0819582u - 0.627396 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.772238u^{34} + 1.25159u^{33} + \cdots + 1.49520u + 0.508098 \\ -0.536061u^{34} + 0.622559u^{33} + \cdots + 1.22634u + 0.115057 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.120048u^{34} + 0.252095u^{33} + \cdots + 2.07998u + 1.70401 \\ -0.898177u^{34} + 0.117584u^{33} + \cdots + 0.120048u + 0.492190 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.16760u^{34} - 1.53977u^{33} + \cdots - 3.05490u - 0.519586 \\ 0.247602u^{34} - 0.512958u^{33} + \cdots - 0.499946u - 0.126931 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.374572u^{34} + 1.04071u^{33} + \cdots + 3.03494u + 2.43025 \\ -0.739813u^{34} + 0.0918438u^{33} + \cdots + 0.208114u + 0.255027 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^3 - 2u \\ -u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{218803516467230358}{106488603430183673}u^{34} + \frac{323482212694991959}{106488603430183673}u^{33} + \cdots + \frac{611689066048825845}{106488603430183673}u + \frac{147965913776380195}{106488603430183673}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{35} + 34u^{34} + \cdots + 115u + 1$
c_2, c_4	$u^{35} - 4u^{34} + \cdots + 11u - 1$
c_3, c_7	$u^{35} - 3u^{34} + \cdots - 68u + 8$
c_5, c_6, c_9 c_{10}	$u^{35} + 2u^{34} + \cdots + 3u^2 - 1$
c_8, c_{11}, c_{12}	$u^{35} - 2u^{34} + \cdots + 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} - 62y^{34} + \cdots + 24691y - 1$
c_2, c_4	$y^{35} - 34y^{34} + \cdots + 115y - 1$
c_3, c_7	$y^{35} + 21y^{34} + \cdots + 3536y - 64$
c_5, c_6, c_9 c_{10}	$y^{35} - 36y^{34} + \cdots + 6y - 1$
c_8, c_{11}, c_{12}	$y^{35} - 24y^{34} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.518512+0.839070I$ $a=-0.20090-1.52795I$ $b=\ \ 0.503396+0.528590I$	$-5.06245-8.93378I$	$5.61011+6.33790I$
$u=-0.518512-0.839070I$ $a=-0.20090+1.52795I$ $b=\ \ 0.503396-0.528590I$	$-5.06245+8.93378I$	$5.61011-6.33790I$
$u=\ \ 0.555627+0.849121I$ $a=-0.614318+1.234160I$ $b=\ \ 0.699304-0.374906I$	$-9.19263+2.79140I$	$2.44794-2.71252I$
$u=\ \ 0.555627-0.849121I$ $a=-0.614318-1.234160I$ $b=\ \ 0.699304+0.374906I$	$-9.19263-2.79140I$	$2.44794+2.71252I$
$u=-0.602141+0.838097I$ $a=-0.899952-0.776437I$ $b=\ \ 0.830081+0.123664I$	$-4.82699+3.41045I$	$4.79435-1.46350I$
$u=-0.602141-0.838097I$ $a=-0.899952+0.776437I$ $b=\ \ 0.830081-0.123664I$	$-4.82699-3.41045I$	$4.79435+1.46350I$
$u=\ \ 1.04102$ $a=-0.463489$ $b=\ \ 1.08686$	5.86840	16.9730
$u=\ \ 1.283960+0.039225I$ $a=\ \ 0.911676+0.081651I$ $b=-0.010028-0.690521I$	$1.087230+0.216328I$	$6.00000+1.40746I$
$u=\ \ 1.283960-0.039225I$ $a=\ \ 0.911676-0.081651I$ $b=-0.010028+0.690521I$	$1.087230-0.216328I$	$6.00000-1.40746I$
$u=-1.309800+0.120534I$ $a=\ \ 0.195097-0.058984I$ $b=\ \ 0.81817+1.70956I$	$2.00975-3.69263I$	$7.27638+5.74697I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.309800-0.120534I$ $a=\ 0.195097+0.058984I$ $b=\ 0.81817-1.70956I$	$2.00975+3.69263I$	$7.27638-5.74697I$
$u=-0.353161+0.521336I$ $a=-0.02390+1.82638I$ $b=-0.075939-1.075600I$	$1.00613-4.12242I$	$7.78031+7.98947I$
$u=-0.353161-0.521336I$ $a=-0.02390-1.82638I$ $b=-0.075939+1.075600I$	$1.00613+4.12242I$	$7.78031-7.98947I$
$u=-1.40049$ $a=\ 11.4155$ $b=-22.2377$	4.90865	190.120
$u=-1.41602+0.13402I$ $a=-0.533008-0.621383I$ $b=\ 0.89460+2.26294I$	$3.82362-2.94287I$	$6.00000+2.97348I$
$u=-1.41602-0.13402I$ $a=-0.533008+0.621383I$ $b=\ 0.89460-2.26294I$	$3.82362+2.94287I$	$6.00000-2.97348I$
$u=\ 1.43763+0.18351I$ $a=-0.659923+0.669202I$ $b=\ 0.47190-2.51680I$	$6.77944+6.69845I$	$11.84404-6.39087I$
$u=\ 1.43763-0.18351I$ $a=-0.659923-0.669202I$ $b=\ 0.47190+2.51680I$	$6.77944-6.69845I$	$11.84404+6.39087I$
$u=\ 1.45669+0.05704I$ $a=-0.812721+0.319156I$ $b=\ 1.47422-0.87678I$	$6.70581+0.15514I$	$13.76195+0.I$
$u=\ 1.45669-0.05704I$ $a=-0.812721-0.319156I$ $b=\ 1.47422+0.87678I$	$6.70581-0.15514I$	$13.76195+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.343056 + 0.384524I$ $a = 2.29929 + 0.59274I$ $b = -0.303185 - 0.122127I$	$1.22163 + 1.17182I$	$8.86681 + 1.56652I$
$u = -0.343056 - 0.384524I$ $a = 2.29929 - 0.59274I$ $b = -0.303185 + 0.122127I$	$1.22163 - 1.17182I$	$8.86681 - 1.56652I$
$u = 0.082086 + 0.492790I$ $a = 0.390939 - 0.968584I$ $b = -1.184340 + 0.387269I$	$-2.24663 + 1.49649I$	$1.03964 - 4.19157I$
$u = 0.082086 - 0.492790I$ $a = 0.390939 + 0.968584I$ $b = -1.184340 - 0.387269I$	$-2.24663 - 1.49649I$	$1.03964 + 4.19157I$
$u = 0.247686 + 0.402332I$ $a = 0.48224 - 1.96211I$ $b = -0.468459 + 0.542393I$	$-1.55343 + 0.99744I$	$0.35469 - 3.95121I$
$u = 0.247686 - 0.402332I$ $a = 0.48224 + 1.96211I$ $b = -0.468459 - 0.542393I$	$-1.55343 - 0.99744I$	$0.35469 + 3.95121I$
$u = 1.53041 + 0.30636I$ $a = 0.801077 - 0.794153I$ $b = -1.46599 + 2.35320I$	$1.56823 + 13.12930I$	0
$u = 1.53041 - 0.30636I$ $a = 0.801077 + 0.794153I$ $b = -1.46599 - 2.35320I$	$1.56823 - 13.12930I$	0
$u = -1.54787 + 0.31879I$ $a = 0.749169 + 0.471916I$ $b = -1.55387 - 1.68510I$	$-2.37929 - 7.10760I$	0
$u = -1.54787 - 0.31879I$ $a = 0.749169 - 0.471916I$ $b = -1.55387 + 1.68510I$	$-2.37929 + 7.10760I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.410266$ $a = 0.502264$ $b = 0.198843$	0.605206	16.5510
$u = 1.58936 + 0.33145I$ $a = 0.519028 - 0.138883I$ $b = -1.30987 + 0.85550I$	$2.32499 + 0.97374I$	0
$u = 1.58936 - 0.33145I$ $a = 0.519028 + 0.138883I$ $b = -1.30987 - 0.85550I$	$2.32499 - 0.97374I$	0
$u = 0.363147$ $a = 6.36258$ $b = -0.317987$	-0.506810	28.7620
$u = -1.77917$ $a = -0.0244730$ $b = -0.370009$	16.2026	0

II. $\boldsymbol{I_2^u = \langle b + u + 1,\ u^2 + a - 3,\ u^3 + u^2 - 2u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 + 3 \\ -u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u^2 - u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2 \\ -u^2 - u - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 - 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^2 + 3 \\ -u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^2 - u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^3$
c_3, c_7	u^3
c_4	$(u+1)^3$
c_5, c_6, c_8	u^3+u^2-2u-1
c_9, c_{10}, c_{11} c_{12}	u^3-u^2-2u+1

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^3$
c_3, c_7	y^3
c_5, c_6, c_8 c_9, c_{10}, c_{11} c_{12}	$y^3 - 5y^2 + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.24698$ $a = 1.44504$ $b = -2.24698$	4.69981	7.43300
$u = -0.445042$ $a = 2.80194$ $b = -0.554958$	−0.939962	2.02180
$u = -1.80194$ $a = -0.246980$ $b = 0.801938$	15.9794	−6.45470

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^3)(u^{35}+34u^{34}+\cdots+115u+1)$
c_2	$((u-1)^3)(u^{35}-4u^{34}+\cdots+11u-1)$
c_3, c_7	$u^3(u^{35}-3u^{34}+\cdots-68u+8)$
c_4	$((u+1)^3)(u^{35}-4u^{34}+\cdots+11u-1)$
c_5, c_6	$(u^3+u^2-2u-1)(u^{35}+2u^{34}+\cdots+3u^2-1)$
c_8	$(u^3+u^2-2u-1)(u^{35}-2u^{34}+\cdots+4u-1)$
c_9, c_{10}	$(u^3-u^2-2u+1)(u^{35}+2u^{34}+\cdots+3u^2-1)$
c_{11}, c_{12}	$(u^3-u^2-2u+1)(u^{35}-2u^{34}+\cdots+4u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^3)(y^{35}-62y^{34}+\cdots+24691y-1)$
c_2, c_4	$((y-1)^3)(y^{35}-34y^{34}+\cdots+115y-1)$
c_3, c_7	$y^3(y^{35}+21y^{34}+\cdots+3536y-64)$
c_5, c_6, c_9 c_{10}	$(y^3-5y^2+6y-1)(y^{35}-36y^{34}+\cdots+6y-1)$
c_8, c_{11}, c_{12}	$(y^3-5y^2+6y-1)(y^{35}-24y^{34}+\cdots+6y-1)$