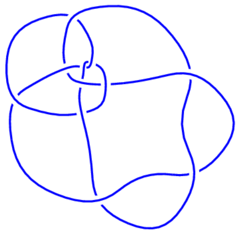
$11a_{278}$ ($K11a_{278}$)



[1]

Arc Sequences

$\uparrow$	$\downarrow$	$\downarrow$	$\uparrow$	$\downarrow$	$\downarrow$	$\downarrow$	$\uparrow$	$\uparrow$	$\downarrow$	$\downarrow$
9	5	1	10	2	4	11	3	6	8	7

Solving Sequence

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

Representation Ideals

$$I = \bigcap_{i=1}^{3} I_i^u$$

$$I_1^u = \langle u^{17} - 8u^{16} + \cdots + 29u - 5,\ -2u^{16} + 17u^{15} + \cdots + b - 8,\ -8u^{16} + 64u^{15} + \cdots + 5a + 3\rangle$$

$$I_2^u = \langle a^{46} - 2a^{44} + \cdots + a + 1,\ 1.52610 \times 10^{110}u + 1.46097 \times 10^{110}a^{45} + \cdots + 2.02303 \times 10^{110}a - 2.30734 \times 10^{110}$$
$$1.52610 \times 10^{110}b + 3.95463 \times 10^{110}a^{45} + \cdots + 3.38990 \times 10^{110}a - 8.67389 \times 10^{110}\rangle$$

$$I_3^u = \langle u^{41} + 11u^{40} + \cdots - 239u - 24,$$
$$- 5.24422 \times 10^{17}u^{40} - 7.01694 \times 10^{18}u^{39} + \cdots + 1.66044 \times 10^{18}b + 4.68165 \times 10^{19},$$
$$- 1.81027 \times 10^{19}u^{40} - 2.27843 \times 10^{20}u^{39} + \cdots + 3.98505 \times 10^{19}a + 1.63232 \times 10^{21}\rangle$$

There are 3 irreducible components with 104 representations.

[1]The knot diagram image is adapter from "C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, http://www.indiana.edu/ knotinfo"

I. $I^u_1 = \langle u^{17} - 8u^{16} + \cdots + 29u - 5,\ -2u^{16} + 17u^{15} + \cdots + b - 8,\ -8u^{16} + 64u^{15} + \cdots + 5a + 3 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{8}{5}u^{16} - \frac{64}{5}u^{15} + \cdots - 3u - \frac{3}{5} \\ 2u^{16} - 17u^{15} + \cdots - 55u + 8 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{5}u^{16} - \frac{8}{5}u^{15} + \cdots - 19u + \frac{24}{5} \\ u^2 - u + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1}{5}u^{16} + \frac{8}{5}u^{15} + \cdots + 17u - \frac{19}{5} \\ -u^4 + 2u^3 - 3u^2 + 3u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{8}{5}u^{16} - \frac{64}{5}u^{15} + \cdots - 3u - \frac{3}{5} \\ -2u^{15} + 15u^{14} + \cdots - 47u + 8 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{4}{5}u^{16} - \frac{32}{5}u^{15} + \cdots - 8u + \frac{1}{5} \\ -u^{15} + 7u^{14} + \cdots - 24u + 4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{8}{5}u^{16} - \frac{64}{5}u^{15} + \cdots - 11u + \frac{7}{5} \\ u^{16} - 10u^{15} + \cdots - 52u + 8 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{2}{5}u^{16} - \frac{16}{5}u^{15} + \cdots + 18u - \frac{22}{5} \\ u^{16} - 8u^{15} + \cdots - 20u + 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{2}{5}u^{16} - \frac{16}{5}u^{15} + \cdots + 18u - \frac{22}{5} \\ u^{16} - 8u^{15} + \cdots - 20u + 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes =**unknown**

(iv) Complex Volumes and Cusp Shapes

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.187789-0.804462I$ $a=-1.297904+0.024002I$ $b=-0.52389+1.44644I$	$7.01302-6.58132I$	$2.73271+4.66890I$
$u=-0.187789+0.804462I$ $a=-1.297904-0.024002I$ $b=-0.52389-1.44644I$	$7.01302+6.58132I$	$2.73271-4.66890I$
$u=\ 0.049862-0.811132I$ $a=\ 1.47990-0.46053I$ $b=\ 0.70749-1.40551I$	$0.38103-2.23066I$	$3.27072+6.66488I$
$u=\ 0.049862+0.811132I$ $a=\ 1.47990+0.46053I$ $b=\ 0.70749+1.40551I$	$0.38103+2.23066I$	$3.27072-6.66488I$
$u=\ 0.159792-1.337935I$ $a=\ 0.573080-0.585069I$ $b=\ 0.57018-1.64757I$	$9.78949+6.03317I$	$3.31072-5.48564I$
$u=\ 0.159792+1.337935I$ $a=\ 0.573080+0.585069I$ $b=\ 0.57018+1.64757I$	$9.78949-6.03317I$	$3.31072+5.48564I$
$u=\ 0.212883-0.989804I$ $a=-1.13211+0.90529I$ $b=-0.78429+1.68209I$	$1.43397+3.72395I$	$9.02521-8.71756I$
$u=\ 0.212883+0.989804I$ $a=-1.13211-0.90529I$ $b=-0.78429-1.68209I$	$1.43397-3.72395I$	$9.02521+8.71756I$
$u=\ 0.459989-1.288471I$ $a=-0.267482+0.862976I$ $b=-0.42153+1.67462I$	$2.67441+5.22342I$	$1.79503-5.33597I$
$u=\ 0.459989+1.288471I$ $a=-0.267482-0.862976I$ $b=-0.42153-1.67462I$	$2.67441-5.22342I$	$1.79503+5.33597I$

Solution to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.623402 - 0.351291I$ $a = 1.017724 - 0.719190I$ $b = 0.426879 - 0.169361I$	$-0.81423 - 1.18978I$	$-7.16259 + 1.41463I$
$u = 0.623402 + 0.351291I$ $a = 1.017724 + 0.719190I$ $b = 0.426879 + 0.169361I$	$-0.81423 + 1.18978I$	$-7.16259 - 1.41463I$
$u = 0.63999 - 1.39192I$ $a = 0.047114 - 0.703808I$ $b = 0.37642 - 1.50738I$	$6.14483 + 5.85758I$	$2.31283 - 5.33514I$
$u = 0.63999 + 1.39192I$ $a = 0.047114 + 0.703808I$ $b = 0.37642 + 1.50738I$	$6.14483 - 5.85758I$	$2.31283 + 5.33514I$
$u = 1.26194$ $a = 0.351598$ $b = -0.116222$	-1.98855	20.3119
$u = 1.41090 - 0.33080I$ $a = -0.396122 - 0.034106I$ $b = 0.206855 - 0.222682I$	$2.33565 + 1.27004I$	$12.05941 + 2.53511I$
$u = 1.41090 + 0.33080I$ $a = -0.396122 + 0.034106I$ $b = 0.206855 + 0.222682I$	$2.33565 - 1.27004I$	$12.05941 - 2.53511I$

II.

$$\boldsymbol{I^u_2 = \langle a^{46}-2a^{44}+\cdots+a+1,\ 1.53\times10^{110}u+1.46\times10^{110}a^{45}+\cdots+2.02\times10^{110}a-2.31\times10^{110},\ 1.53\times10^{110}b+3.95\times10^{110}a^{45}+\cdots+3.39\times10^{110}a-8.67\times10^{110}\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\-0.957324a^{45}-0.383445a^{44}+\cdots-1.32562a+1.51192\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.957324a^{45}-0.383445a^{44}+\cdots-1.32562a+1.51192\\-0.957324a^{45}-0.383445a^{44}+\cdots-1.32562a+1.51192\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1.46700a^{45}+0.999285a^{44}+\cdots+8.44280a+7.57757\\1.46700a^{45}+0.999285a^{44}+\cdots+8.44280a+6.57757\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}a\\-2.59133a^{45}+1.93310a^{44}+\cdots-2.22128a+5.68370\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1.54484a^{45}+0.397211a^{44}+\cdots+5.75585a+3.16488\\2.40991a^{45}+0.272951a^{44}+\cdots-2.98102a-2.01086\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-1.43573a^{45}-0.869536a^{44}+\cdots-7.51485a-6.67814\\1.82366a^{45}+1.44800a^{44}+\cdots+15.0421a+2.67972\end{pmatrix}$$
$$a_9 = \begin{pmatrix}a\\-1.59204a^{45}+1.63823a^{44}+\cdots+2.88929a+4.21670\end{pmatrix}$$
$$a_1 = \begin{pmatrix}1.63823a^{45}+0.568060a^{44}+\cdots+5.80874a+2.59204\\2.98215a^{45}+2.03765a^{44}+\cdots+7.35905a+2.13238\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.646576a^{45}-1.98885a^{44}+\cdots-12.7444a-10.3648\\0.235703a^{45}-0.841836a^{44}+\cdots-1.40771a-5.16715\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}4.21332a^{45}-1.39340a^{44}+\cdots+26.4455a-4.42054\\-0.964043a^{45}+1.14515a^{44}+\cdots+9.91606a+6.29299\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}4.21332a^{45}-1.39340a^{44}+\cdots+26.4455a-4.42054\\-0.964043a^{45}+1.14515a^{44}+\cdots+9.91606a+6.29299\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.300297 - 0.396341I$ $a = -2.29108 - 0.26263I$ $b = \ \ 0.659064 - 0.272120I$	$5.91614 + 5.40360I$	$-0.73363 - 1.75125I$
$u = -0.300297 + 0.396341I$ $a = -2.29108 + 0.26263I$ $b = \ \ 0.659064 + 0.272120I$	$5.91614 - 5.40360I$	$-0.73363 + 1.75125I$
$u = -0.186753 - 0.913593I$ $a = -2.12924 - 0.45864I$ $b = -1.41577 - 0.22926I$	$0.48240 - 3.68961I$	$-4.31455 + 10.86650I$
$u = -0.186753 + 0.913593I$ $a = -2.12924 + 0.45864I$ $b = -1.41577 + 0.22926I$	$0.48240 + 3.68961I$	$-4.31455 - 10.86650I$
$u = \ \ 0.184645 + 1.327796I$ $a = -0.76864 - 1.22003I$ $b = -1.16196 - 1.98582I$	$11.44284 - 6.01561I$	$9.34351 + 5.45649I$
$u = \ \ 0.184645 - 1.327796I$ $a = -0.76864 + 1.22003I$ $b = -1.16196 + 1.98582I$	$11.44284 + 6.01561I$	$9.34351 - 5.45649I$
$u = -0.186753 - 0.913593I$ $a = -0.523578 - 0.592634I$ $b = -0.59960 - 2.32622I$	$0.48240 - 3.68961I$	$-4.31455 + 10.86650I$
$u = -0.186753 + 0.913593I$ $a = -0.523578 + 0.592634I$ $b = -0.59960 + 2.32622I$	$0.48240 + 3.68961I$	$-4.31455 - 10.86650I$
$u = \ \ 0.55226 + 1.43648I$ $a = -0.394595 - 0.763047I$ $b = -0.86738 - 1.18435I$	$6.99739 - 7.32012I$	$2.83321 + 9.36955I$
$u = \ \ 0.55226 - 1.43648I$ $a = -0.394595 + 0.763047I$ $b = -0.86738 + 1.18435I$	$6.99739 + 7.32012I$	$2.83321 - 9.36955I$

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.126296 - 0.206470I$ $a = -0.325064 - 0.295967I$ $b = 0.532160 - 0.269149I$	$1.93766 + 1.32101I$	$-4.99704 - 4.34736I$
$u = 1.126296 + 0.206470I$ $a = -0.325064 + 0.295967I$ $b = 0.532160 + 0.269149I$	$1.93766 - 1.32101I$	$-4.99704 + 4.34736I$
$u = 0.616588 + 1.034050I$ $a = -0.280768 - 0.666044I$ $b = 0.175511 - 0.450071I$	$4.52825 - 4.72419I$	$-0.87243 + 5.66443I$
$u = 0.616588 - 1.034050I$ $a = -0.280768 + 0.666044I$ $b = 0.175511 + 0.450071I$	$4.52825 + 4.72419I$	$-0.87243 - 5.66443I$
$u = 0.616588 - 1.034050I$ $a = -0.269180 - 1.017674I$ $b = 0.59661 - 1.74551I$	$4.52825 + 4.72419I$	$-0.87243 - 5.66443I$
$u = 0.616588 + 1.034050I$ $a = -0.269180 + 1.017674I$ $b = 0.59661 + 1.74551I$	$4.52825 - 4.72419I$	$-0.87243 + 5.66443I$
$u = -0.300297 - 0.396341I$ $a = -0.21968 - 2.37381I$ $b = -1.16367 - 1.09345I$	$5.91614 + 5.40360I$	$-0.73363 - 1.75125I$
$u = -0.300297 + 0.396341I$ $a = -0.21968 + 2.37381I$ $b = -1.16367 + 1.09345I$	$5.91614 - 5.40360I$	$-0.73363 + 1.75125I$
$u = 0.356806 + 1.198902I$ $a = -0.208082 - 0.624477I$ $b = 0.66825 - 1.38472I$	$4.04810 - 4.55921I$	$5.41713 + 6.09867I$
$u = 0.356806 - 1.198902I$ $a = -0.208082 + 0.624477I$ $b = 0.66825 + 1.38472I$	$4.04810 + 4.55921I$	$5.41713 - 6.09867I$

Solution to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.126296 + 0.206470I$ $a = -0.072281 - 0.413630I$ $b = 0.323461 + 0.274461I$	$1.93766 - 1.32101I$	$-4.99704 + 4.34736I$
$u = 1.126296 - 0.206470I$ $a = -0.072281 + 0.413630I$ $b = 0.323461 - 0.274461I$	$1.93766 + 1.32101I$	$-4.99704 - 4.34736I$
$u = 0.54822 + 1.33148I$ $a = -0.071226 - 0.829845I$ $b = -0.47263 - 1.93178I$	$1.92714 - 5.73570I$	$-6.54258 + 11.45569I$
$u = 0.54822 - 1.33148I$ $a = -0.071226 + 0.829845I$ $b = -0.47263 + 1.93178I$	$1.92714 + 5.73570I$	$-6.54258 - 11.45569I$
$u = 0.55226 - 1.43648I$ $a = 0.042372 - 0.738312I$ $b = 0.36774 - 2.21932I$	$6.99739 + 7.32012I$	$2.83321 - 9.36955I$
$u = 0.55226 + 1.43648I$ $a = 0.042372 + 0.738312I$ $b = 0.36774 + 2.21932I$	$6.99739 - 7.32012I$	$2.83321 + 9.36955I$
$u = 0.184645 - 1.327796I$ $a = 0.108563 - 0.591394I$ $b = -1.00034 - 2.21512I$	$11.44284 + 6.01561I$	$9.34351 - 5.45649I$
$u = 0.184645 + 1.327796I$ $a = 0.108563 + 0.591394I$ $b = -1.00034 + 2.21512I$	$11.44284 - 6.01561I$	$9.34351 + 5.45649I$
$u = 1.07372$ $a = 0.124252 - 0.220240I$ $b = -0.276659 + 0.017433I$	-2.18491	-16.7310
$u = 1.07372$ $a = 0.124252 + 0.220240I$ $b = -0.276659 - 0.017433I$	-2.18491	-16.7310

Solution to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.388479 - 0.400318I$ $a = 0.225563 - 1.314025I$ $b = -0.508689 + 0.404794I$	$-0.02603 + 1.77955I$	$-5.09313 - 4.79070I$
$u = 0.388479 + 0.400318I$ $a = 0.225563 + 1.314025I$ $b = -0.508689 - 0.404794I$	$-0.02603 - 1.77955I$	$-5.09313 + 4.79070I$
$u = 0.356806 - 1.198902I$ $a = 0.234189 - 1.300088I$ $b = 0.74465 - 1.97512I$	$4.04810 + 4.55921I$	$5.41713 - 6.09867I$
$u = 0.356806 + 1.198902I$ $a = 0.234189 + 1.300088I$ $b = 0.74465 + 1.97512I$	$4.04810 - 4.55921I$	$5.41713 + 6.09867I$
$u = -0.233567 + 1.031348I$ $a = 0.252571 - 0.635915I$ $b = 1.16183 - 2.65957I$	$7.62895 + 7.86344I$	$3.61806 - 10.44591I$
$u = -0.233567 - 1.031348I$ $a = 0.252571 + 0.635915I$ $b = 1.16183 + 2.65957I$	$7.62895 - 7.86344I$	$3.61806 + 10.44591I$
$u = 0.54822 - 1.33148I$ $a = 0.299644 - 0.757047I$ $b = 0.480499 - 1.226914I$	$1.92714 + 5.73570I$	$-6.54258 - 11.45569I$
$u = 0.54822 + 1.33148I$ $a = 0.299644 + 0.757047I$ $b = 0.480499 + 1.226914I$	$1.92714 - 5.73570I$	$-6.54258 + 11.45569I$
$u = -0.089537 + 0.682903I$ $a = 1.25817 - 1.62197I$ $b = 0.97421 - 1.47696I$	$-0.19963 - 1.69919I$	$-7.29306 + 0.59779I$
$u = -0.089537 - 0.682903I$ $a = 1.25817 + 1.62197I$ $b = 0.97421 + 1.47696I$	$-0.19963 + 1.69919I$	$-7.29306 - 0.59779I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.089537 - 0.682903I$ $a = 1.315106 - 0.119247I$ $b = -0.406813 + 0.788955I$	$-0.19963 + 1.69919I$	$-7.29306 - 0.59779I$
$u = -0.089537 + 0.682903I$ $a = 1.315106 + 0.119247I$ $b = -0.406813 - 0.788955I$	$-0.19963 - 1.69919I$	$-7.29306 + 0.59779I$
$u = 0.388479 + 0.400318I$ $a = 1.59424 - 0.74983I$ $b = 0.220071 - 1.103626I$	$-0.02603 - 1.77955I$	$-5.09313 + 4.79070I$
$u = 0.388479 - 0.400318I$ $a = 1.59424 + 0.74983I$ $b = 0.220071 + 1.103626I$	$-0.02603 + 1.77955I$	$-5.09313 - 4.79070I$
$u = -0.233567 - 1.031348I$ $a = 2.09874 - 0.10703I$ $b = 1.46947 - 0.71011I$	$7.62895 - 7.86344I$	$3.61806 + 10.44591I$
$u = -0.233567 + 1.031348I$ $a = 2.09874 + 0.10703I$ $b = 1.46947 + 0.71011I$	$7.62895 + 7.86344I$	$3.61806 - 10.44591I$

III. $I_3^u = \langle u^{41} + 11u^{40} + \cdots - 239u - 24,\ -5.24 \times 10^{17}u^{40} - 7.02 \times 10^{18}u^{39} + \cdots + 1.66 \times 10^{18}b + 4.68 \times 10^{19},\ -1.81 \times 10^{19}u^{40} - 2.28 \times 10^{20}u^{39} + \cdots + 3.99 \times 10^{19}a + 1.63 \times 10^{21}\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.454264u^{40} + 5.71745u^{39} + \cdots - 387.153u - 40.9611 \\ 0.315834u^{40} + 4.22596u^{39} + \cdots - 250.719u - 28.1953 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.406963u^{40} - 5.21537u^{39} + \cdots + 74.2686u + 3.95900 \\ -0.784851u^{40} - 9.15906u^{39} + \cdots + 280.640u + 27.4978 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.35883u^{40} - 14.0083u^{39} + \cdots + 46.7401u + 2.26122 \\ -1.44090u^{40} - 15.2553u^{39} + \cdots + 173.604u + 15.1956 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.454264u^{40} + 5.71745u^{39} + \cdots - 387.153u - 40.9611 \\ -0.720540u^{40} - 6.88956u^{39} + \cdots - 67.6080u - 10.9023 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.28278u^{40} + 13.4475u^{39} + \cdots - 94.7279u - 9.91551 \\ 0.663004u^{40} + 8.31978u^{39} + \cdots - 295.668u - 30.7866 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.283426u^{40} - 2.58335u^{39} + \cdots - 192.778u - 20.0851 \\ -1.42698u^{40} - 15.5781u^{39} + \cdots + 106.447u + 6.65133 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.828643u^{40} + 9.45479u^{39} + \cdots - 243.403u - 24.0844 \\ 0.638552u^{40} + 8.31334u^{39} + \cdots - 521.048u - 55.1077 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.828643u^{40} + 9.45479u^{39} + \cdots - 243.403u - 24.0844 \\ 0.638552u^{40} + 8.31334u^{39} + \cdots - 521.048u - 55.1077 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes =unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.182594 - 0.075770I$ $a = \ \ 0.861334 + 0.534048I$ $b = -0.125805 - 0.201350I$	$6.46948 + 11.04653I$	$1.00030 - 7.47384I$
$u = -1.182594 + 0.075770I$ $a = \ \ 0.861334 - 0.534048I$ $b = -0.125805 + 0.201350I$	$6.46948 - 11.04653I$	$1.00030 + 7.47384I$
$u = -1.052801 - 0.131390I$ $a = -0.989565 - 0.532958I$ $b = -0.039494 + 0.164175I$	$0.26528 + 7.29842I$	$-2.61009 - 7.62825I$
$u = -1.052801 + 0.131390I$ $a = -0.989565 + 0.532958I$ $b = -0.039494 - 0.164175I$	$0.26528 - 7.29842I$	$-2.61009 + 7.62825I$
$u = -0.821173 - 0.119690I$ $a = \ \ 1.231442 + 0.646031I$ $b = \ \ 0.248144 + 0.009447I$	$0.99974 + 2.62993I$	$-0.91222 - 3.18628I$
$u = -0.821173 + 0.119690I$ $a = \ \ 1.231442 - 0.646031I$ $b = \ \ 0.248144 - 0.009447I$	$0.99974 - 2.62993I$	$-0.91222 + 3.18628I$
$u = -0.717608 - 0.311811I$ $a = -0.92139 + 1.18966I$ $b = -0.114856 + 0.481785I$	$7.82283 - 0.16471I$	$3.38955 + 1.65431I$
$u = -0.717608 + 0.311811I$ $a = -0.92139 - 1.18966I$ $b = -0.114856 - 0.481785I$	$7.82283 + 0.16471I$	$3.38955 - 1.65431I$
$u = -0.684336 - 1.194054I$ $a = -0.491630 + 0.663349I$ $b = -0.515135 + 1.305498I$	$10.00544 - 5.34593I$	$6.97622 + 3.91982I$
$u = -0.684336 + 1.194054I$ $a = -0.491630 - 0.663349I$ $b = -0.515135 - 1.305498I$	$10.00544 + 5.34593I$	$6.97622 - 3.91982I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.58068 - 1.35810I$ $a = -0.213713 - 1.113859I$ $b = -0.69031 - 2.27881I$	$10.5240 - 17.2112I$	$2.94234 + 8.67373I$
$u = -0.58068 + 1.35810I$ $a = -0.213713 + 1.113859I$ $b = -0.69031 + 2.27881I$	$10.5240 + 17.2112I$	$2.94234 - 8.67373I$
$u = -0.558892 - 1.297927I$ $a = 0.223473 + 1.175296I$ $b = 0.61123 + 2.23550I$	$3.92238 - 13.02368I$	$0.07893 + 9.11009I$
$u = -0.558892 + 1.297927I$ $a = 0.223473 - 1.175296I$ $b = 0.61123 - 2.23550I$	$3.92238 + 13.02368I$	$0.07893 - 9.11009I$
$u = -0.495810 - 1.155838I$ $a = 0.309610 - 0.841076I$ $b = 0.49917 - 1.33090I$	$4.52174 - 1.46436I$	$3.61202 + 2.25685I$
$u = -0.495810 + 1.155838I$ $a = 0.309610 + 0.841076I$ $b = 0.49917 + 1.33090I$	$4.52174 + 1.46436I$	$3.61202 - 2.25685I$
$u = -0.490892 - 1.239605I$ $a = -0.300435 - 1.251025I$ $b = -0.50849 - 2.24179I$	$4.41136 - 7.49164I$	$2.21822 + 5.79104I$
$u = -0.490892 + 1.239605I$ $a = -0.300435 + 1.251025I$ $b = -0.50849 + 2.24179I$	$4.41136 + 7.49164I$	$2.21822 - 5.79104I$
$u = -0.38362 - 1.54611I$ $a = 0.124908 - 0.520175I$ $b = 0.51532 - 1.32151I$	$11.91805 + 4.98494I$	$7.36557 - 3.29856I$
$u = -0.38362 + 1.54611I$ $a = 0.124908 + 0.520175I$ $b = 0.51532 + 1.32151I$	$11.91805 - 4.98494I$	$7.36557 + 3.29856I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.347665 - 1.264829I$ $a = 0.459099 + 1.166379I$ $b = 0.38911 + 2.30741I$	$12.33802 - 3.83464I$	$6.62030 + 3.17897I$
$u = -0.347665 + 1.264829I$ $a = 0.459099 - 1.166379I$ $b = 0.38911 - 2.30741I$	$12.33802 + 3.83464I$	$6.62030 - 3.17897I$
$u = -0.325776 - 1.364772I$ $a = -0.090435 + 0.652622I$ $b = -0.498665 + 1.315915I$	$5.42164 + 2.35534I$	$4.38781 - 4.47001I$
$u = -0.325776 + 1.364772I$ $a = -0.090435 - 0.652622I$ $b = -0.498665 - 1.315915I$	$5.42164 - 2.35534I$	$4.38781 + 4.47001I$
$u = -0.212627 - 0.952062I$ $a = -1.03120 - 1.05086I$ $b = -0.53232 - 1.69272I$	$1.10287 - 3.44596I$	$-5.05254 - 2.71451I$
$u = -0.212627 + 0.952062I$ $a = -1.03120 + 1.05086I$ $b = -0.53232 + 1.69272I$	$1.10287 + 3.44596I$	$-5.05254 + 2.71451I$
$u = -0.113639 - 0.464794I$ $a = 1.57765 + 0.07476I$ $b = 0.472884 + 0.590304I$	$-0.006980 + 1.308314I$	$1.77615 - 2.91870I$
$u = -0.113639 + 0.464794I$ $a = 1.57765 - 0.07476I$ $b = 0.472884 - 0.590304I$	$-0.006980 - 1.308314I$	$1.77615 + 2.91870I$
$u = -0.038850 - 0.715738I$ $a = 0.39907 + 1.63492I$ $b = -0.85992 + 1.16202I$	$7.32305 + 0.14265I$	$5.03936 + 0.27284I$
$u = -0.038850 + 0.715738I$ $a = 0.39907 - 1.63492I$ $b = -0.85992 - 1.16202I$	$7.32305 - 0.14265I$	$5.03936 - 0.27284I$

Solution to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.029022 - 1.006329I$ $a = -0.503900 - 1.096770I$ $b = 0.67253 - 1.61446I$	$3.33397 + 0.06687I$	$6.02301 + 0.24252I$
$u = 0.029022 + 1.006329I$ $a = -0.503900 + 1.096770I$ $b = 0.67253 + 1.61446I$	$3.33397 - 0.06687I$	$6.02301 - 0.24252I$
$u = 0.125412 - 1.084045I$ $a = 0.628323 + 1.038113I$ $b = -0.75793 + 1.92540I$	$8.77240 + 0.69151I$	$5.83897 + 1.00152I$
$u = 0.125412 + 1.084045I$ $a = 0.628323 - 1.038113I$ $b = -0.75793 - 1.92540I$	$8.77240 - 0.69151I$	$5.83897 - 1.00152I$
$u = 0.185808 - 0.685986I$ $a = 0.869279 + 0.128351I$ $b = 0.096765 + 0.850031I$	$-0.087291 + 1.322904I$	$-3.26673 - 3.24423I$
$u = 0.185808 + 0.685986I$ $a = 0.869279 - 0.128351I$ $b = 0.096765 - 0.850031I$	$-0.087291 - 1.322904I$	$-3.26673 + 3.24423I$
$u = 0.388375 - 1.153132I$ $a = -0.376979 - 0.314906I$ $b = 0.347184 - 1.021300I$	$5.35338 + 3.81903I$	$0.34343 - 3.03057I$
$u = 0.388375 + 1.153132I$ $a = -0.376979 + 0.314906I$ $b = 0.347184 + 1.021300I$	$5.35338 - 3.81903I$	$0.34343 + 3.03057I$
$u = 1.12668$ $a = 0.115460$ $b = -0.276655$	-2.19078	-19.8799
$u = 1.215004 - 0.331445I$ $a = -0.176835 + 0.024248I$ $b = 0.428913 - 0.263631I$	$1.95983 + 1.37588I$	$-8.33065 - 3.10614I$
$u = 1.215004 + 0.331445I$ $a = -0.176835 - 0.024248I$ $b = 0.428913 + 0.263631I$	$1.95983 - 1.37588I$	$-8.33065 + 3.10614I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1	$(u^{17}+3u^{15}+\cdots-u-1)(u^{41}-12u^{39}+\cdots-2u-1)$ $(u^{46}+u^{45}+\cdots+8u^2+1)$
c_2	$(u^{17}-8u^{16}+\cdots+29u-5)$ $(1+4u+14u^2+38u^3+99u^4+222u^5+461u^6+857u^7+1431u^8+2150u^9+2896u^{10}+351$ $(u^{41}-11u^{40}+\cdots-239u+24)$
c_3	$(u^{17}+u^{16}+\cdots+u+1)(u^{41}+u^{40}+\cdots+6u-1)$ $(u^{46}+7u^{45}+\cdots+188u+37)$
c_4	$(u^{17}-4u^{15}+\cdots-2u^2+1)(u^{41}-3u^{39}+\cdots+39u+19)$ $(u^{46}+u^{45}+\cdots+36u+11)$
c_5	$(u^{17}+8u^{16}+\cdots+29u+5)$ $(1+4u+14u^2+38u^3+99u^4+222u^5+461u^6+857u^7+1431u^8+2150u^9+2896u^{10}+351$ $(u^{41}-11u^{40}+\cdots-239u+24)$
c_6	$(u^{17}+u^{16}+\cdots+u+1)(u^{41}+u^{40}+\cdots+6u-1)$ $(u^{46}+7u^{45}+\cdots+188u+37)$
c_7	$(u^{17}-5u^{16}+\cdots+6u-1)(u^{41}-8u^{40}+\cdots+9u-2)$ $(u^{46}+10u^{45}+\cdots-12u^2+1)$
c_8	$(u^{17}-4u^{15}+\cdots-2u^2+1)(u^{41}-3u^{39}+\cdots+39u+19)$ $(u^{46}+u^{45}+\cdots+36u+11)$
c_9	$(u^{17}+3u^{15}+\cdots-u-1)(u^{41}-12u^{39}+\cdots-2u-1)$ $(u^{46}+u^{45}+\cdots+8u^2+1)$
c_{10}	$(u^{17}+5u^{16}+\cdots+6u+1)$ $(-1+6u^2+12u^3-3u^4-52u^5-105u^6-29u^7+317u^8+1008u^9+1928u^{10}+2824u^{11}+33$ $(u^{41}-8u^{40}+\cdots+9u-2)$
c_{11}	$(u^{17}+5u^{16}+\cdots+6u+1)(u^{41}-8u^{40}+\cdots+9u-2)$ $(u^{46}+10u^{45}+\cdots-12u^2+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1	$(y^{17}+6y^{16}+\cdots+7y-1)(y^{41}-24y^{40}+\cdots+96y-1)$ $(y^{46}+7y^{45}+\cdots+16y+1)$
c_2, c_5	$(y^{17}+8y^{16}+\cdots-159y-25)$ $(-1-12y-90y^2-474y^3-1843y^4-5522y^5-1.26\times10^4y^6-2.05\times10^4y^7-2.11\times10^4y^8$ $(y^{41}+23y^{40}+\cdots-10223y-576)$
c_3	$(y^{17}-7y^{16}+\cdots+y-1)(y^{41}+27y^{40}+\cdots-82y-1)$ $(y^{46}-5y^{45}+\cdots+23412y+1369)$
c_4	$(y^{17}-8y^{16}+\cdots+4y-1)(y^{41}-6y^{40}+\cdots+4637y-361)$ $(y^{46}-13y^{45}+\cdots+4820y+121)$
c_6	$(y^{17}-7y^{16}+\cdots+y-1)(y^{41}+27y^{40}+\cdots-82y-1)$ $(y^{46}-5y^{45}+\cdots+23412y+1369)$
c_7, c_{11}	$(y^{17}+17y^{16}+\cdots-8y-1)(y^{41}+40y^{40}+\cdots-87y-4)$ $(y^{46}+46y^{45}+\cdots-24y+1)$
c_8	$(y^{17}-8y^{16}+\cdots+4y-1)(y^{41}-6y^{40}+\cdots+4637y-361)$ $(y^{46}-13y^{45}+\cdots+4820y+121)$
c_9	$(y^{17}+6y^{16}+\cdots+7y-1)(y^{41}-24y^{40}+\cdots+96y-1)$ $(y^{46}+7y^{45}+\cdots+16y+1)$
c_{10}	$(y^{17}+17y^{16}+\cdots-8y-1)(y^{41}+40y^{40}+\cdots-87y-4)$ $(y^{46}+46y^{45}+\cdots-24y+1)$