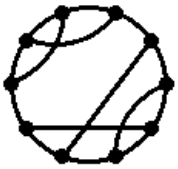
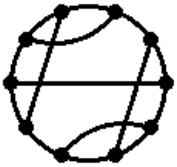
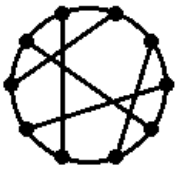
Vassiliev Invariants
(Chord parametrization)
Part II

Evert Stenlund

$[\![2]\!] =$  $[\![3]\!] =$ 

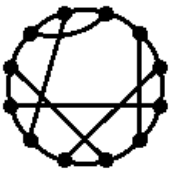
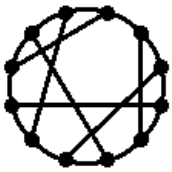
$[\![41]\!] =$  $[\![42]\!] =$  $[\![43]\!] =$ 

$[\![51]\!] =$  $[\![52]\!] =$  $[\![53]\!] =$ 

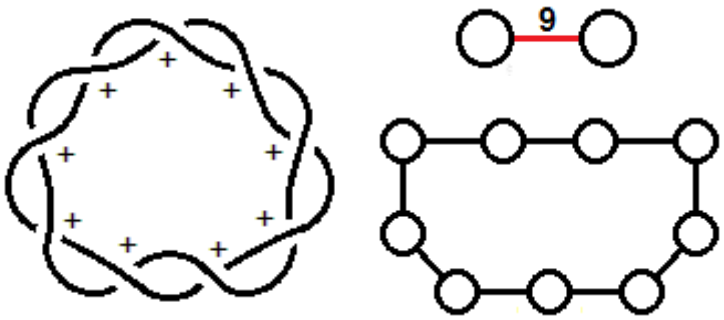
$[\![54]\!] =$ 

$[\![61]\!] =$  $[\![62]\!] =$  $[\![63]\!] =$ 

$[\![64]\!] =$  $[\![65]\!] =$  $[\![66]\!] =$ 

$[\![67]\!] =$  $[\![68]\!] =$  $[\![69]\!] =$ 

9_1:

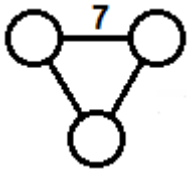


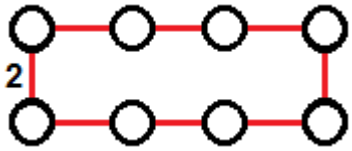
$v_{even} = x_{9.1}$

$v_{odd} = \pm y_{9.1}$

v_2	$10[\![2]\!]$
v_3	$\pm 30[\![3]\!]$
v_4	$15[\![43]\!] + 45[\![42]\!] - 30[\![41]\!] + 10[\![2]\!]$
v_5	$\pm(54[\![54]\!] - 27[\![53]\!] + 30[\![3]\!])$
v_6	$70[\![69]\!] + 126[\![68]\!] - 266[\![67]\!] + 91[\![66]\!] - 252[\![65]\!] + 42[\![64]\!] + 28[\![63]\!] + 7[\![62]\!] + 126[\![61]\!] + 15[\![43]\!] + 45[\![42]\!] - 30[\![41]\!] + 10[\![2]\!]$

9_2:



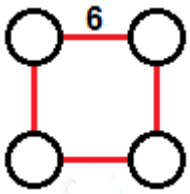


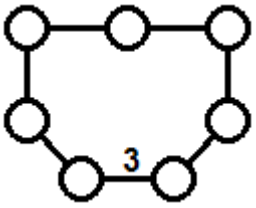
$v_{even} = x_{9.2}$

$v_{odd} = \pm y_{9.2}$

v_2	$4[\![2]\!]$
v_3	$\pm 10[\![3]\!]$
v_4	$3[\![43]\!] + 10[\![42]\!] - 10[\![41]\!] + 4[\![2]\!]$
v_5	$\pm(10[\![54]\!] - 10[\![53]\!] + 5[\![52]\!] - 10[\![51]\!] + 10[\![3]\!])$
v_6	$\frac{1}{2}(10[\![69]\!] + 10[\![68]\!] - 20[\![67]\!] - 5[\![66]\!] - 13[\![65]\!] + 3[\![64]\!] + 5[\![63]\!] - 7[\![62]\!] + 10[\![61]\!] + 6[\![43]\!] + 20[\![42]\!] - 20[\![41]\!] + 8[\![2]\!])$

9_3:



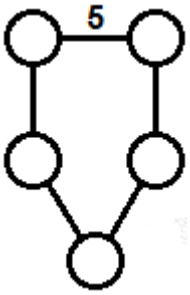


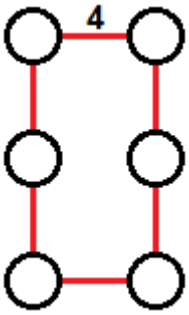
$\boldsymbol{v_{even}} = x_{9.3}$

$\boldsymbol{v_{odd}} = \pm y_{9.3}$

$\boldsymbol{v_2}$	$9[\![2]\!]$
$\boldsymbol{v_3}$	$\pm 26[\![3]\!]$
$\boldsymbol{v_4}$	$\frac{1}{2}(27[\![43]\!] + 66[\![42]\!] - 48[\![41]\!] + 18[\![2]\!])$
$\boldsymbol{v_5}$	$\pm(48[\![54]\!] - 31[\![53]\!] - 8[\![52]\!] + 12[\![51]\!] + 26[\![3]\!])$
$\boldsymbol{v_6}$	$\frac{1}{2}(128[\![69]\!] + 232[\![68]\!] - 540[\![67]\!] + 198[\![66]\!] - 448[\![65]\!] + 64[\![64]\!] + 58[\![63]\!] - 4[\![62]\!] + 224[\![61]\!] + 27[\![43]\!] + 66[\![42]\!] - 48[\![41]\!] + 18[\![2]\!])$

9_4:



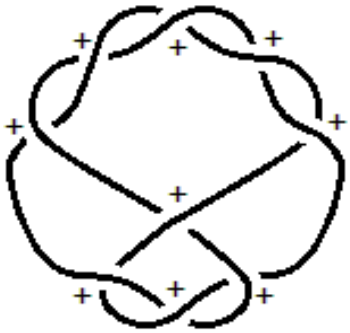


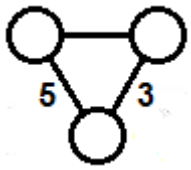
$v_{even} = x_{9.4}$

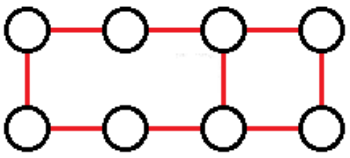
$v_{odd} = \pm y_{9.4}$

v_2	$7[\![2]\!]$
v_3	$\pm 19[\![3]\!]$
v_4	$9[\![43]\!] + 20[\![42]\!] - 17[\![41]\!] + 7[\![2]\!]$
v_5	$\pm(31[\![54]\!] - 25[\![53]\!] - 4[\![52]\!] + 5[\![51]\!] + 19[\![3]\!])$
v_6	$\frac{1}{2}(73[\![69]\!] + 127[\![68]\!] - 312[\![67]\!] + 111[\![66]\!] - 232[\![65]\!] + 29[\![64]\!] + 34[\![63]\!] - 12[\![62]\!] + 117[\![61]\!] + 18[\![43]\!] + 40[\![42]\!] - 34[\![41]\!] + 14[\![2]\!])$

9_5:





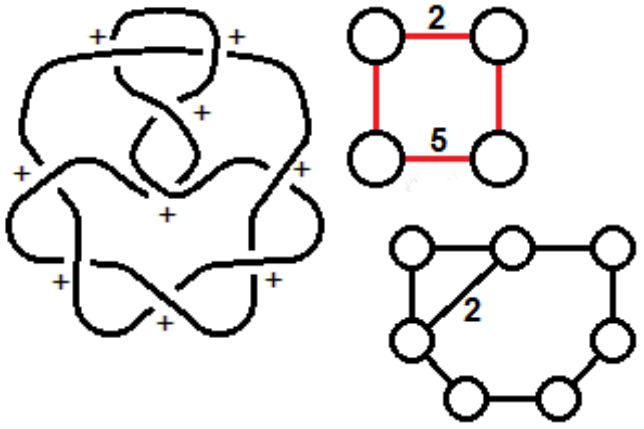


$v_{even} = x_{9.5}$

$v_{odd} = \pm y_{9.5}$

v_2	$6[\![2]\!]$
v_3	$\pm 15[\![3]\!]$
v_4	$\frac{1}{2}(15[\![43]\!] + 22[\![42]\!] - 22[\![41]\!] + 12[\![2]\!])$
v_5	$\pm(25[\![54]\!] - 25[\![53]\!] - 5[\![52]\!] + 10[\![51]\!] + 15[\![3]\!])$
v_6	$\frac{1}{2}(62[\![69]\!] + 110[\![68]\!] - 300[\![67]\!] + 125[\![66]\!] - 187[\![65]\!] + 5[\![64]\!] + 27[\![63]\!] - 17[\![62]\!] + 94[\![61]\!] + 15[\![43]\!] + 22[\![42]\!] - 22[\![41]\!] + 12[\![2]\!])$

9_6:

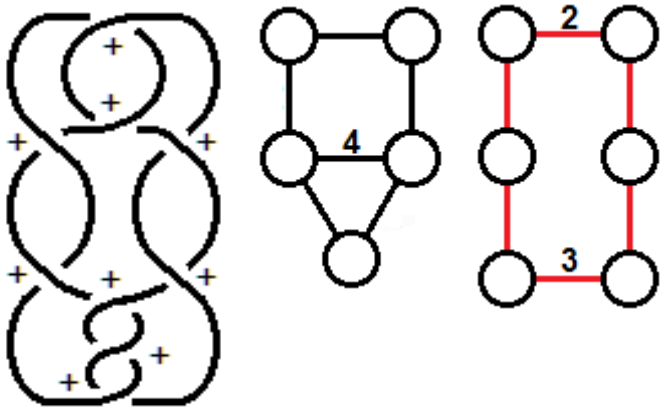


$v_{even} = x_{9.6}$

$v_{odd} = \pm y_{9.6}$

v_2	$7[\![2]\!]$
v_3	$\pm 18[\![3]\!]$
v_4	$\frac{1}{2}(13[\![43]\!] + 48[\![42]\!] - 32[\![41]\!] + 14[\![2]\!])$
v_5	$\pm(20[\![54]\!] - 9[\![53]\!] + 8[\![52]\!] - 12[\![51]\!] + 18[\![3]\!])$
v_6	$\frac{1}{2}(29[\![69]\!] + 47[\![68]\!] - 82[\![67]\!] + 19[\![66]\!] - 88[\![65]\!] + 13[\![64]\!] + 9[\![63]\!] + [\![62]\!] + 44[\![61]\!] + 13[\![43]\!] + 48[\![42]\!] - 32[\![41]\!] + 14[\![2]\!])$

9_7:

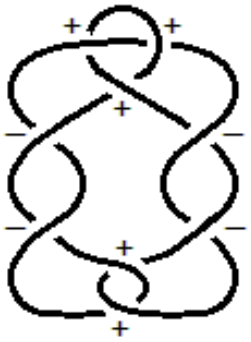


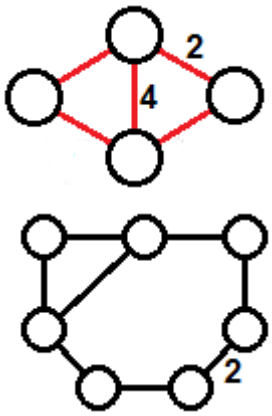
$v_{even} = x_{9.7}$

$v_{odd} = \pm y_{9.7}$

v_2	$5[\![2]\!]$
v_3	$\pm 12[\![3]\!]$
v_4	$\frac{1}{2}(7[\![43]\!] + 28[\![42]\!] - 22[\![41]\!] + 10[\![2]\!])$
v_5	$\pm(11[\![54]\!] - 8[\![53]\!] + 8[\![52]\!] - 13[\![51]\!] + 12[\![3]\!])$
v_6	$\frac{1}{2}(10[\![69]\!] + 10[\![68]\!] - 14[\![67]\!] - 8[\![66]\!] - 8[\![65]\!] - 2[\![64]\!] + 5[\![63]\!] - 7[\![62]\!] + 5[\![61]\!] + 7[\![43]\!] + 28[\![42]\!] - 22[\![41]\!] + 10[\![2]\!])$

9_8:



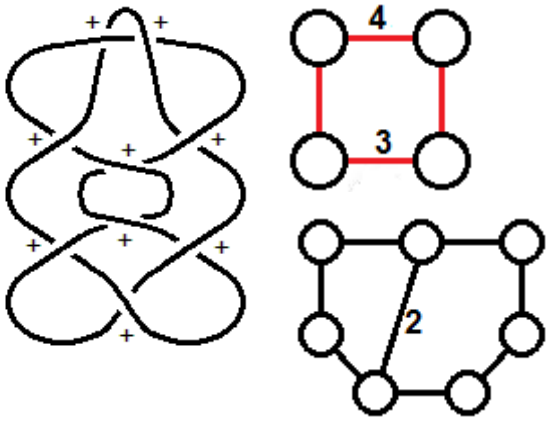


$v_{even} = x_{9.8}$

$v_{odd} = \pm y_{9.8}$

v_2	0
v_3	$\pm 2[\![3]\!]$
v_4	$[\![43]\!] - [\![42]\!] - [\![41]\!]$
v_5	$\pm([\![54]\!] - 3[\![53]\!] + 3[\![52]\!] - 3[\![51]\!] + 2[\![3]\!])$
v_6	$\frac{1}{2}(6[\![67]\!] - 3[\![66]\!] - 5[\![65]\!] + 5[\![64]\!] + 5[\![61]\!] + 2[\![43]\!] - 2[\![42]\!] - 2[\![41]\!])$

9_9:

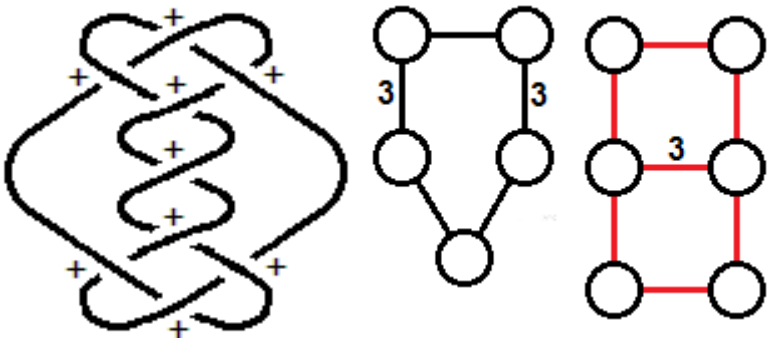


$v_{even} = x_{9.9}$

$v_{odd} = \pm y_{9.9}$

v_2	$8[\![2]\!]$
v_3	$\pm 22[\![3]\!]$
v_4	$10[\![43]\!] + 28[\![42]\!] - 20[\![41]\!] + 8[\![2]\!]$
v_5	$\pm(34[\![54]\!] - 21[\![53]\!] + 22[\![3]\!])$
v_6	$\frac{1}{2}(77[\![69]\!] + 135[\![68]\!] - 302[\![67]\!] + 101[\![66]\!] - 256[\![65]\!] + 37[\![64]\!] + 35[\![63]\!] - 3[\![62]\!] + 128[\![61]\!] + 20[\![43]\!] + 56[\![42]\!] - 40[\![41]\!] + 16[\![2]\!])$

9_{10}:

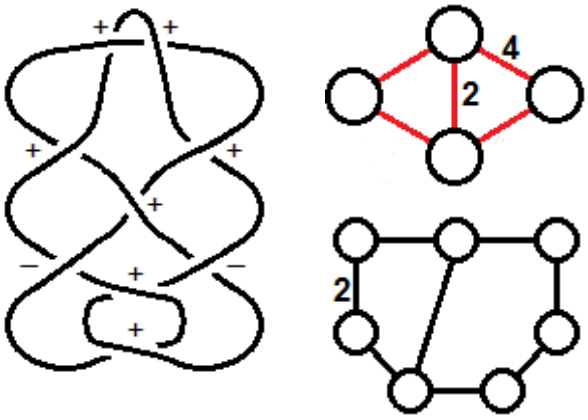


$v_{even} = x_{9.10}$

$v_{odd} = \pm y_{9.10}$

v_2	$8[\![2]\!]$
v_3	$\pm 22[\![3]\!]$
v_4	$12[\![43]\!] + 22[\![42]\!] - 18[\![41]\!] + 8[\![2]\!]$
v_5	$\pm(42[\![54]\!] - 34[\![53]\!] - 12[\![52]\!] + 20[\![51]\!] + 22[\![3]\!])$
v_6	$58[\![69]\!] + 106[\![68]\!] - 270[\![67]\!] + 108[\![66]\!] - 194[\![65]\!] + 18[\![64]\!] + 27[\![63]\!] - 9[\![62]\!] + 97[\![61]\!] + 12[\![43]\!] + 22[\![42]\!] - 18[\![41]\!] + 8[\![2]\!]$

9_{11}:

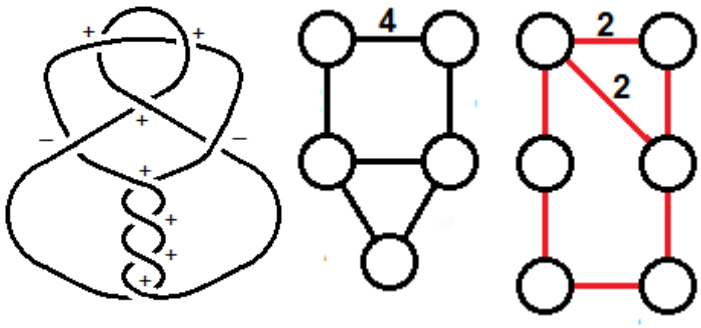


$v_{even} = x_{9.11}$

$v_{odd} = \pm y_{9.11}$

v_2	$4[\![2]\!]$
v_3	$\pm 9[\![3]\!]$
v_4	$\frac{1}{2}(7[\![43]\!] + 10[\![42]\!] - 12[\![41]\!] + 8[\![2]\!])$
v_5	$\pm(10[\![54]\!] - 11[\![53]\!] + [\![51]\!] + 9[\![3]\!])$
v_6	$\frac{1}{2}(16[\![69]\!] + 28[\![68]\!] - 74[\![67]\!] + 30[\![66]\!] - 48[\![65]\!] + 4[\![64]\!] + 7[\![63]\!] - 7[\![62]\!] + 25[\![61]\!] + 7[\![43]\!] + 10[\![42]\!] - 12[\![41]\!] + 8[\![2]\!])$

9_{12}:

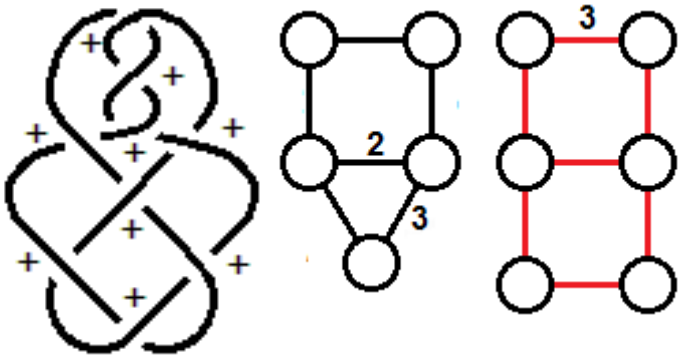


$v_{even} = x_{9.12}$

$v_{odd} = \pm y_{9.12}$

v_2	$[\![2]\!]$
v_3	$\pm 3[\![3]\!]$
v_4	$[\![43]\!] + [\![42]\!] - 3[\![41]\!] + [\![2]\!]$
v_5	$\pm(3[\![54]\!] - 6[\![53]\!] + 4[\![52]\!] - 5[\![51]\!] + 3[\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] - [\![68]\!] + 4[\![67]\!] - 5[\![66]\!] + 4[\![65]\!] - [\![64]\!] + 2[\![63]\!] - 4[\![62]\!] + [\![61]\!] + 2[\![43]\!] + 2[\![42]\!] - 6[\![41]\!] + 2[\![2]\!])$

9_{13}:

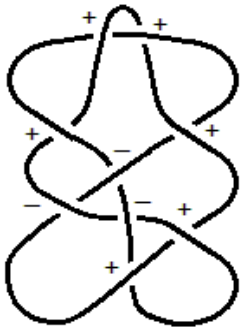


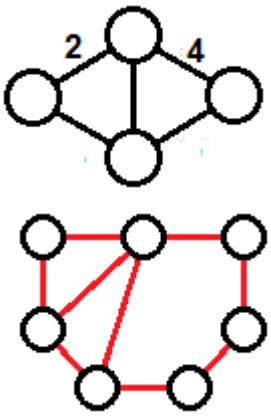
$v_{even} = x_{9.13}$

$v_{odd} = \pm y_{9.13}$

v_2	$7[\![2]\!]$
v_3	$\pm 18[\![3]\!]$
v_4	$\frac{1}{2}(17[\![43]\!] + 36[\![42]\!] - 28[\![41]\!] + 14[\![2]\!])$
v_5	$\pm(28[\![54]\!] - 22[\![53]\!] - 4[\![52]\!] + 8[\![51]\!] + 18[\![3]\!])$
v_6	$\frac{1}{2}(66[\![69]\!] + 118[\![68]\!] - 296[\![67]\!] + 114[\![66]\!] - 212[\![65]\!] + 18[\![64]\!] + 32[\![63]\!] - 12[\![62]\!] + 106[\![61]\!] + 17[\![43]\!] + 36[\![42]\!] - 28[\![41]\!] + 14[\![2]\!])$

9_{14}:



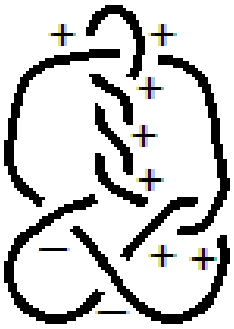


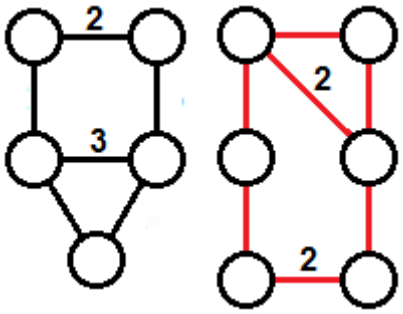
$v_{even} = x_{9.14}$

$v_{odd} = \pm y_{9.14}$

v_2	$-[\![2]\!]$
v_3	$\mp 2[\![3]\!]$
v_4	$\frac{1}{2}(-[\![43]\!] + 2[\![42]\!] + 2[\![41]\!] - 2[\![2]\!])$
v_5	$\mp([\![54]\!] - 4[\![53]\!] + 5[\![52]\!] - 5[\![51]\!] + 2[\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] + 3[\![68]\!] - 12[\![67]\!] + 4[\![66]\!] + [\![65]\!] + [\![63]\!] - 3[\![62]\!] - [\![61]\!] - [\![43]\!] + 2[\![42]\!] + 2[\![41]\!] - 2[\![2]\!])$

9_{15}:



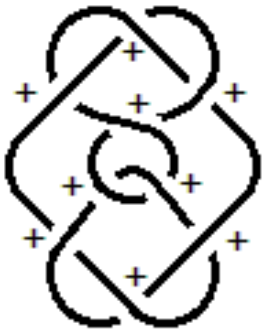


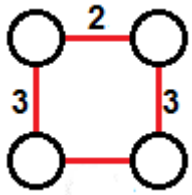
$v_{even} = x_{9.15}$

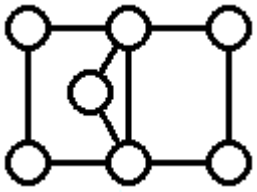
$v_{odd} = \pm y_{9.15}$

v_2	$2[\![2]\!]$
v_3	$\pm 5[\![3]\!]$
v_4	$\frac{1}{2}(3[\![43]\!] + 4[\![42]\!] - 8[\![41]\!] + 4[\![2]\!])$
v_5	$\pm(4[\![54]\!] - 6[\![53]\!] + 2[\![52]\!] - 3[\![51]\!] + 5[\![3]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 2[\![68]\!] - 2[\![67]\!] - 2[\![66]\!] - 4[\![65]\!] + 4[\![64]\!] + [\![63]\!] - 3[\![62]\!] + 5[\![61]\!] + 3[\![43]\!] + 4[\![42]\!] - 8[\![41]\!] + 4[\![2]\!])$

9_{16}:





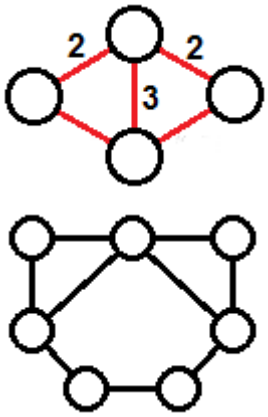


$v_{even} = x_{9.16}$

$v_{odd} = \pm y_{9.16}$

v_2	$6[\![2]\!]$
v_3	$\pm 14[\![3]\!]$
v_4	$4[\![43]\!] + 18[\![42]\!] - 11[\![41]\!] + 6[\![2]\!]$
v_5	$\pm(12[\![54]\!] - 6[\![53]\!] + 12[\![52]\!] - 14[\![51]\!] + 14[\![3]\!])$
v_6	$\frac{1}{2}(12[\![69]\!] + 13[\![68]\!] - 20[\![67]\!] - 3[\![66]\!] - 2[\![65]\!] - 10[\![64]\!] + 6[\![63]\!] - 8[\![62]\!] + [\![61]\!] + 8[\![43]\!] + 36[\![42]\!] - 22[\![41]\!] + 12[\![2]\!])$

9_{17}:

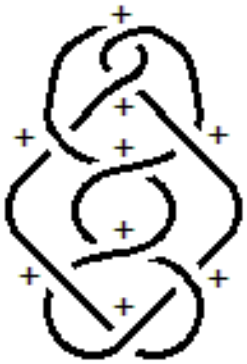


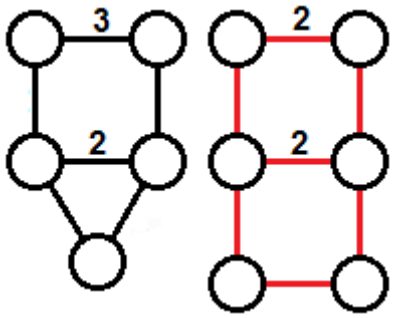
$v_{even} = x_{9.17}$

$v_{odd} = \pm y_{9.17}$

v_2	$-2[\![2]\!]$
v_3	0
v_4	$[\![43]\!] + [\![42]\!] - 2[\![2]\!]$
v_5	$\mp([\![53]\!] - 4[\![52]\!] + 4[\![51]\!])$
v_6	$\frac{1}{2}(-4[\![67]\!] + 3[\![66]\!] + 6[\![65]\!] - 4[\![64]\!] - [\![63]\!] - 2[\![62]\!] - 3[\![61]\!] + [\![43]\!] + [\![42]\!] - 2[\![2]\!])$

9_{18}:



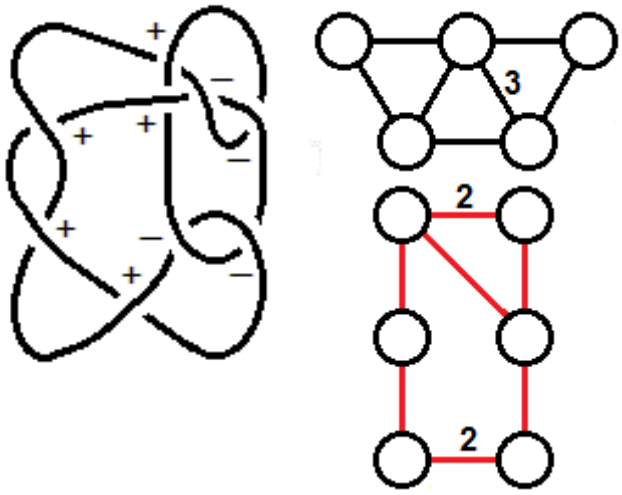


$v_{even} = x_{9.18}$

$v_{odd} = \pm y_{9.18}$

v_2	$6[\![2]\!]$
v_3	$\pm 15[\![3]\!]$
v_4	$\frac{1}{2}(11[\![43]\!] + 34[\![42]\!] - 26[\![41]\!] + 12[\![2]\!])$
v_5	$\pm(17[\![54]\!] - 11[\![53]\!] + 3[\![52]\!] - 6[\![51]\!] + 15[\![3]\!])$
v_6	$\frac{1}{2}(26[\![69]\!] + 42[\![68]\!] - 88[\![67]\!] + 23[\![66]\!] - 79[\![65]\!] + 13[\![64]\!] + 11[\![63]\!] - 3[\![62]\!] + 40[\![61]\!] + 11[\![43]\!] + 34[\![42]\!] - 26[\![41]\!] + 12[\![2]\!])$

9_{19}:

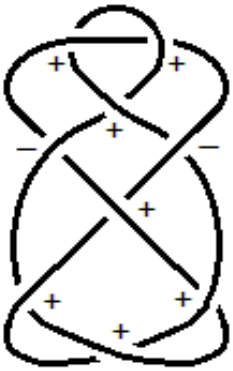


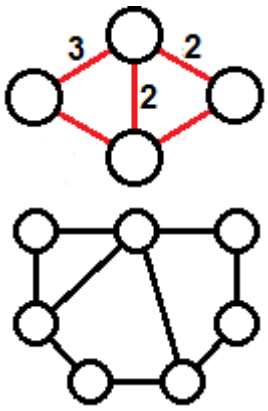
$v_{even} = x_{9.19}$

$v_{odd} = \pm y_{9.19}$

v_2	$-2[\![2]\!]$
v_3	$\pm[\![3]\!]$
v_4	$\frac{1}{2}([\![43]\!] + 4[\![42]\!] - 4[\![2]\!])$
v_5	$\mp(2[\![53]\!] - 5[\![52]\!] + 5[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(-10[\![67]\!] + 5[\![66]\!] + 13[\![65]\!] - 7[\![64]\!] - 6[\![62]\!] - 7[\![61]\!] + [\![43]\!] + 4[\![42]\!] - 4[\![2]\!])$

9_{20}:



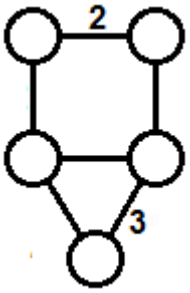


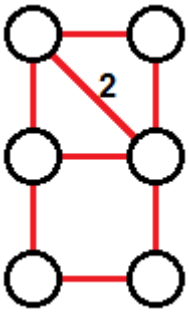
$v_{even} = x_{9.20}$

$v_{odd} = \pm y_{9.20}$

v_2	$2[\![2]\!]$
v_3	$\pm 4[\![3]\!]$
v_4	$[\![43]\!] + 2[\![42]\!] - 3[\![41]\!] + 2[\![2]\!]$
v_5	$\pm(3[\![54]\!] - 5[\![53]\!] + 4[\![52]\!] - 5[\![51]\!] + 4[\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] - [\![68]\!] + 4[\![67]\!] - 7[\![66]\!] + 8[\![65]\!] - 3[\![64]\!] + 4[\![63]\!] - 6[\![62]\!] - 3[\![61]\!] + 2[\![43]\!] + 4[\![42]\!] - 6[\![41]\!] + 4[\![2]\!])$

9_{21}:



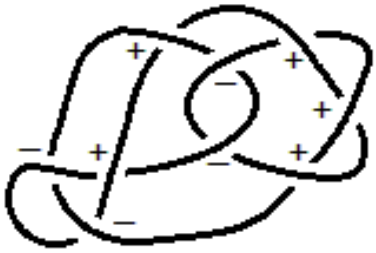


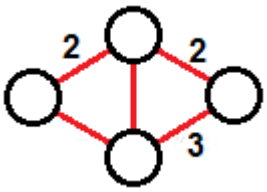
$v_{even} = x_{9.21}$

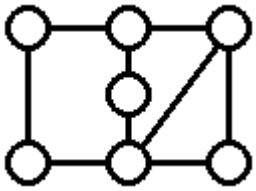
$v_{odd} = \pm y_{9.21}$

v_2	$3[\![2]\!]$
v_3	$\pm 6[\![3]\!]$
v_4	$\frac{1}{2}(5[\![43]\!] + 2[\![42]\!] - 6[\![41]\!] + 6[\![2]\!])$
v_5	$\pm(7[\![54]\!] - 10[\![53]\!] + [\![52]\!] + [\![51]\!] + 6[\![3]\!])$
v_6	$\frac{1}{2}(13[\![69]\!] + 23[\![68]\!] - 68[\![67]\!] + 34[\![66]\!] - 37[\![65]\!] - 4[\![64]\!] + 3[\![63]\!] - 5[\![62]\!] + 19[\![61]\!] + 5[\![43]\!] + 2[\![42]\!] - 6[\![41]\!] + 6[\![2]\!])$

9_{22}:





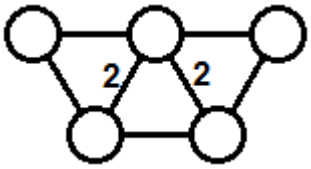


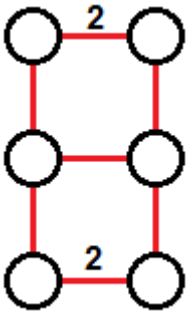
$v_{even} = x_{9.22}$

$v_{odd} = \pm y_{9.22}$

v_2	$-[\![2]\!]$
v_3	$\pm[\![3]\!]$
v_4	$2[\![42]\!] - [\![41]\!] - [\![2]\!]$
v_5	$\mp(2[\![53]\!] - 6[\![52]\!] + 6[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(-2[\![69]\!] - 3[\![68]\!] + 2[\![67]\!] - [\![66]\!] + 20[\![65]\!] - 8[\![64]\!] - 6[\![62]\!] - 9[\![61]\!] + 4[\![42]\!] - 2[\![41]\!] - 2[\![2]\!])$

9_{23}:



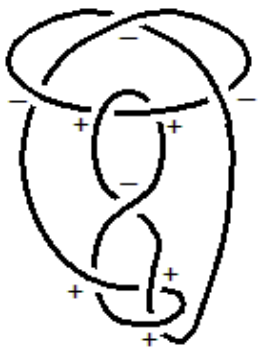


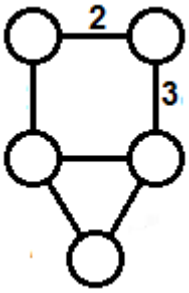
$v_{even} = x_{9.23}$

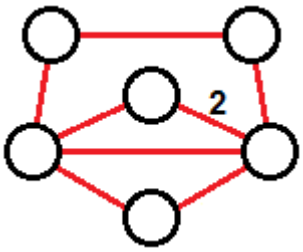
$v_{odd} = \pm y_{9.23}$

v_2	$5[\![2]\!]$
v_3	$\pm 11[\![3]\!]$
v_4	$3[\![43]\!] + 12[\![42]\!] - 8[\![41]\!] + 5[\![2]\!]$
v_5	$\pm(8[\![54]\!] - 4[\![53]\!] + 6[\![52]\!] - 8[\![51]\!] + 11[\![3]\!])$
v_6	$2[\![69]\!] + 2[\![68]\!] - 3[\![66]\!] - [\![64]\!] + [\![63]\!] - 2[\![62]\!] + 3[\![43]\!] + 12[\![42]\!] - 8[\![41]\!] + 5[\![2]\!]$

9_{24}:





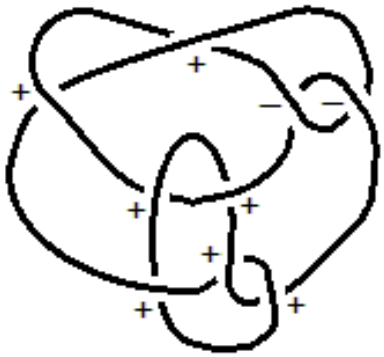


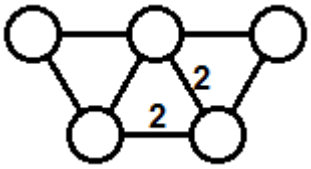
$v_{even} = x_{9.24}$

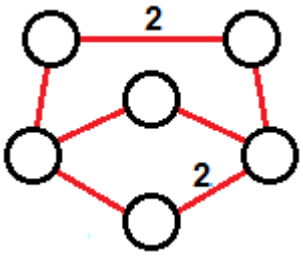
$v_{odd} = \pm y_{9.24}$

v_2	$[\![2]\!]$
v_3	$\pm 2[\![3]\!]$
v_4	$\frac{1}{2}([\![43]\!] - 2[\![42]\!] + 2[\![2]\!])$
v_5	$\pm([\![54]\!] - 3[\![53]\!] + 4[\![52]\!] - 3[\![51]\!] + 2[\![3]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 3[\![68]\!] - 6[\![67]\!] + 3[\![66]\!] - 10[\![65]\!] + 4[\![64]\!] + [\![63]\!] - [\![62]\!] + 6[\![61]\!] + [\![43]\!] - 2[\![42]\!] + 2[\![2]\!])$

9_{25}:





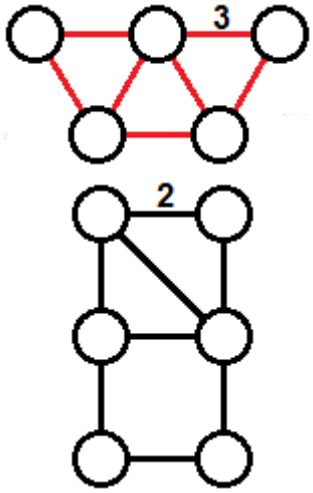


$v_{even} = x_{9.25}$

$v_{odd} = \pm y_{9.25}$

v_2	0
v_3	$\pm[\![3]\!]$
v_4	$\frac{1}{2}(3[\![43]\!] - 4[\![42]\!] - 2[\![41]\!])$
v_5	$\pm(2[\![54]\!] - 3[\![53]\!] - 2[\![52]\!] + [\![51]\!] + [\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] + 2[\![68]\!] + 6[\![67]\!] - 6[\![66]\!] - 14[\![65]\!] + 7[\![64]\!] + 2[\![63]\!] + 2[\![62]\!] + 10[\![61]\!] + 3[\![43]\!] - 4[\![42]\!] - 2[\![41]\!])$

9_{26}:

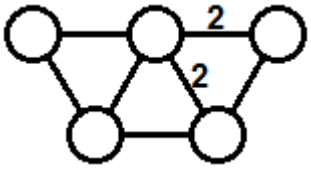


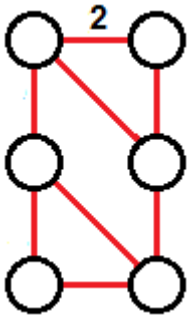
$v_{even} = x_{9.26}$

$v_{odd} = \pm y_{9.26}$

v_2	0
v_3	$\mp[\![3]\!]$
v_4	$\frac{1}{2}(-[\![43]\!] + 2[\![41]\!])$
v_5	$\mp([\![54]\!] - 3[\![53]\!] + 4[\![52]\!] - 4[\![51]\!] + [\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] + 3[\![68]\!] - 10[\![67]\!] + 5[\![66]\!] - 4[\![65]\!] + [\![64]\!] - [\![63]\!] + [\![62]\!] + 2[\![61]\!] - [\![43]\!] + 2[\![41]\!])$

9_{27}:



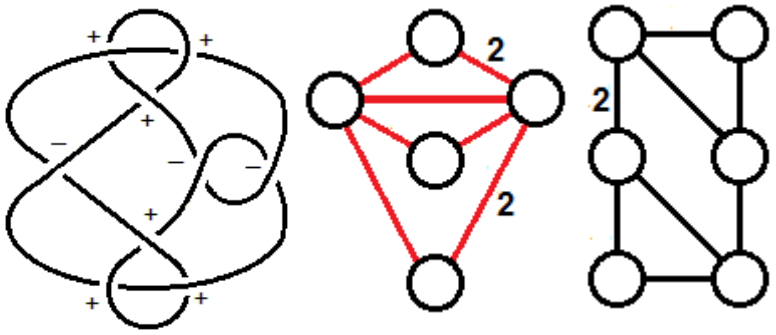


$v_{even} = x_{9.27}$

$v_{odd} = \pm y_{9.27}$

v_2	0
v_3	$\pm[\![3]\!]$
v_4	$\frac{1}{2}([\![43]\!] - 2[\![42]\!])$
v_5	$\mp([\![53]\!] - 3[\![52]\!] + 3[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(6[\![67]\!] - 5[\![66]\!] - 5[\![65]\!] + 5[\![64]\!] + 2[\![63]\!] + 3[\![61]\!] + [\![43]\!] - 2[\![42]\!])$

9_{28}:

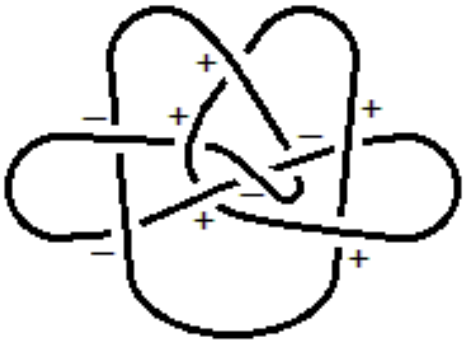


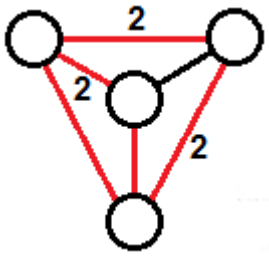
$v_{even} = x_{9.28}$

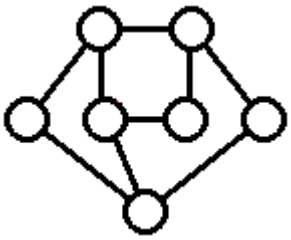
$v_{odd} = \pm y_{9.28}$

v_2	$[\![2]\!]$
v_3	0
v_4	$\frac{1}{2}(-[\![43]\!] + 2[\![41]\!] + 2[\![2]\!])$
v_5	$\mp([\![52]\!] - 2[\![51]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 3[\![68]\!] - 12[\![67]\!] + 4[\![66]\!] - [\![65]\!] - [\![64]\!] + [\![63]\!] - [\![62]\!] + [\![61]\!] - [\![43]\!] + 2[\![41]\!] + 2[\![2]\!])$

9_{29}:





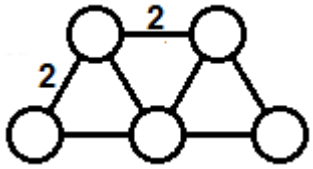


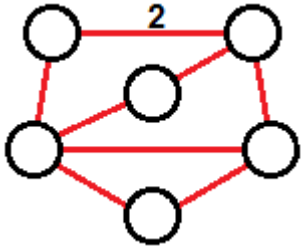
$v_{even} = x_{9.29}$

$v_{odd} = \pm y_{9.29}$

v_2	$[\![2]\!]$
v_3	$\pm 2[\![3]\!]$
v_4	$\frac{1}{2}(-[\![43]\!] + 4[\![42]\!] - 2[\![41]\!] + 2[\![2]\!])$
v_5	$\pm(2[\![54]\!] - 6[\![53]\!] + 8[\![52]\!] - 6[\![51]\!] + 2[\![3]\!])$
v_6	$\frac{1}{2}(-2[\![69]\!] - 5[\![68]\!] + 12[\![67]\!] - 13[\![66]\!] + 24[\![65]\!] - 4[\![64]\!] + 4[\![63]\!] - 6[\![62]\!] - 11[\![61]\!] - [\![43]\!] + 4[\![42]\!] - 2[\![41]\!] + 2[\![2]\!])$

9_{30}:



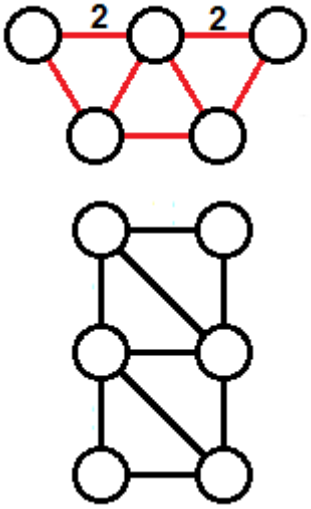


$v_{even} = x_{9.30}$

$v_{odd} = \pm y_{9.30}$

v_2	$-[\![2]\!]$
v_3	$\pm[\![3]\!]$
v_4	$[\![43]\!] - [\![42]\!] - [\![2]\!]$
v_5	$\mp([\![54]\!] - [\![53]\!] - 2[\![52]\!] + 3[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(-[\![68]\!] + 8[\![67]\!] - 5[\![66]\!] - 6[\![65]\!] + 6[\![64]\!] + [\![63]\!] + [\![62]\!] + 4[\![61]\!] + 2[\![43]\!] - 2[\![42]\!] - 2[\![2]\!])$

9_{31}:

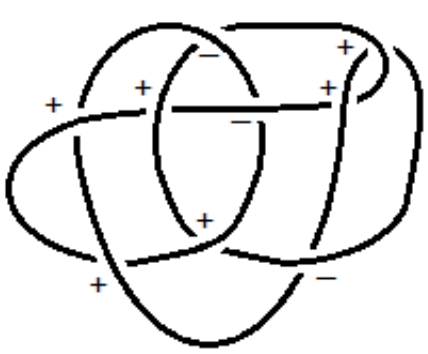


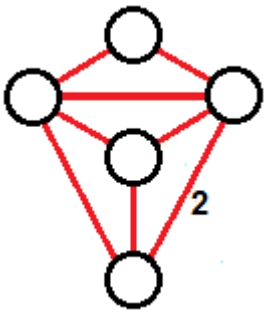
$v_{even} = x_{9.31}$

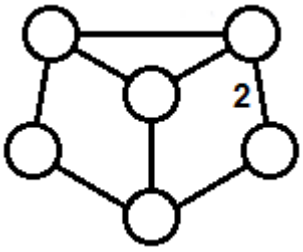
$v_{odd} = \pm y_{9.31}$

v_2	$2[\![2]\!]$
v_3	$\pm 2[\![3]\!]$
v_4	$[\![42]\!] + 2[\![2]\!]$
v_5	$\pm([\![53]\!] - 2[\![52]\!] + 2[\![51]\!] + 2[\![3]\!])$
v_6	$-2[\![67]\!] + 2[\![66]\!] - [\![64]\!] - [\![63]\!] + [\![62]\!] + [\![42]\!] + 2[\![2]\!]$

9_{32}:





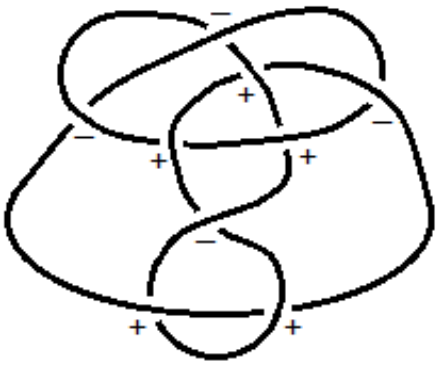


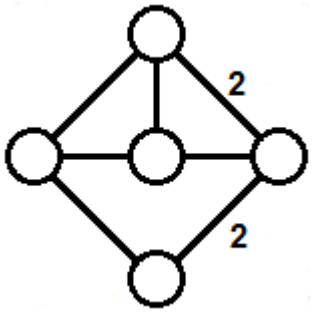
$v_{even} = x_{9.32}$

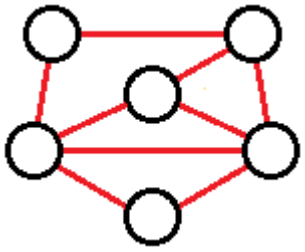
$v_{odd} = \pm y_{9.32}$

v_2	$-[\![2]\!]$
v_3	$\mp 2[\![3]\!]$
v_4	$14[\![43]\!] - 2[\![42]\!] + 2[\![41]\!] - [\![2]\!]$
v_5	$\pm([\![54]\!] - 5[\![52]\!] + 7[\![51]\!] - 2[\![3]\!])$
v_6	$\frac{1}{2}(6[\![69]\!] + 11[\![68]\!] - 28[\![67]\!] + 10[\![66]\!] - 21[\![65]\!] + 5[\![64]\!] + 2[\![63]\!] + 2[\![62]\!] + 10[\![61]\!] + 28[\![43]\!] - 4[\![42]\!] + 4[\![41]\!] - 2[\![2]\!])$

9_{33}:





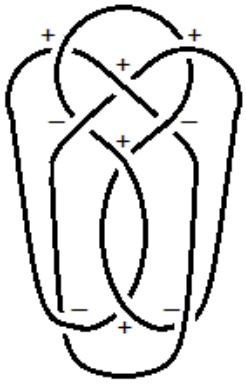


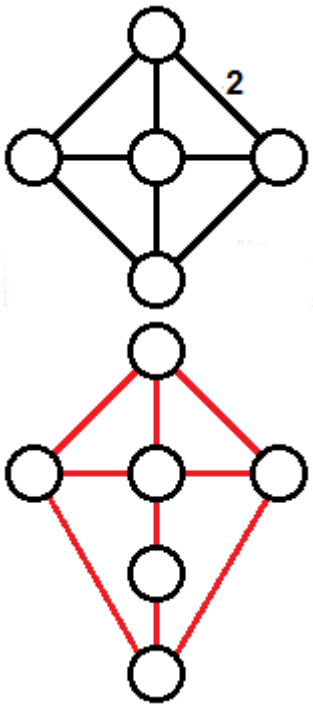
$v_{even} = x_{9.33}$

$v_{odd} = \pm y_{9.33}$

v_2	$[\![2]\!]$
v_3	$\pm[\![3]\!]$
v_4	$[\![2]\!]$
v_5	$\pm([\![54]\!] - 3[\![53]\!] + 4[\![52]\!] - 3[\![51]\!] + [\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] - 2[\![67]\!] + 2[\![66]\!] - 4[\![65]\!] + [\![64]\!] + 2[\![61]\!] + 2[\![2]\!])$

9_{34}:



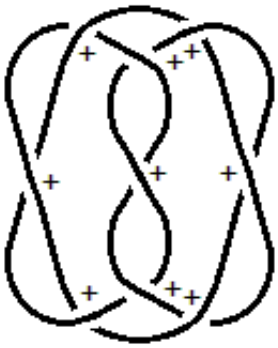


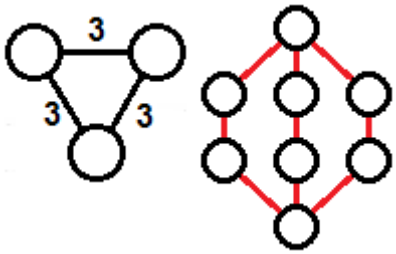
$v_{even} = x_{9.34}$

$v_{odd} = \pm y_{9.34}$

v_2	$-[\![2]\!]$
v_3	0
v_4	$\frac{1}{2}([\![43]\!] - 2[\![2]\!])$
v_5	$\pm([\![54]\!] - 3[\![53]\!] + 4[\![52]\!] - 3[\![51]\!])$
v_6	$\frac{1}{2}([\![69]\!] - 2[\![67]\!] + 2[\![66]\!] - 4[\![65]\!] + [\![64]\!] + 2[\![61]\!] + [\![43]\!] - 2[\![2]\!])$

9_{35}:



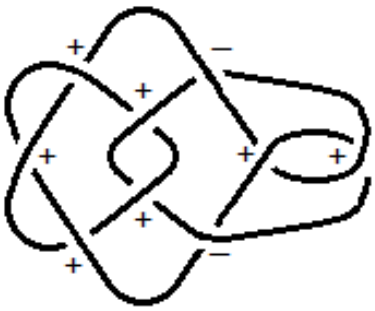


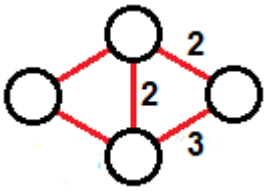
$v_{even} = x_{9.35}$

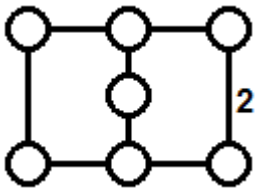
$v_{odd} = \pm y_{9.35}$

v_2	$7[\![2]\!]$
v_3	$\pm 18[\![3]\!]$
v_4	$\frac{1}{2}(21[\![43]\!] + 24[\![42]\!] - 24[\![41]\!] + 14[\![2]\!])$
v_5	$\pm(36[\![54]\!] - 36[\![53]\!] - 12[\![52]\!] + 24[\![51]\!] + 18[\![3]\!])$
v_6	$\frac{1}{2}(104[\![69]\!] + 192[\![68]\!] - 532[\![67]\!] + 236[\![66]\!] - 328[\![65]\!] + 4[\![64]\!] + 44[\![63]\!] - 28[\![62]\!] + 164[\![61]\!] + 21[\![43]\!] + 24[\![42]\!] - 24[\![41]\!] + 14[\![2]\!])$

9_{36}:





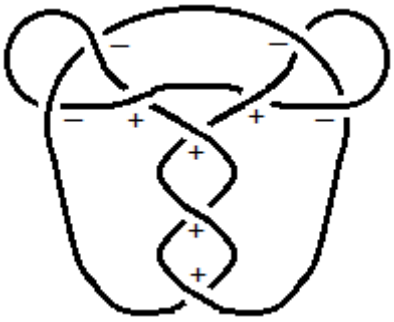


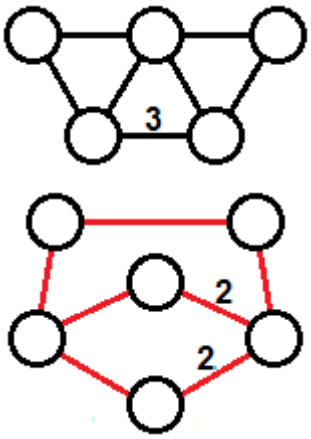
$v_{even} = x_{9.36}$

$v_{odd} = \pm y_{9.36}$

v_2	$3[\![2]\!]$
v_3	$\pm 7[\![3]\!]$
v_4	$2[\![43]\!] + 5[\![42]\!] - 6[\![41]\!] + 3[\![2]\!]$
v_5	$\pm(5[\![54]\!] - 5[\![53]\!] + 2[\![52]\!] - 5[\![51]\!] + 7[\![3]\!])$
v_6	$\frac{1}{2}(-[\![68]\!] + 12[\![67]\!] - 11[\![66]\!] + 6[\![64]\!] + [\![63]\!] - 3[\![62]\!] + 2[\![61]\!] + 4[\![43]\!] + 10[\![42]\!] - 12[\![41]\!] + 6[\![2]\!])$

9_{37}:



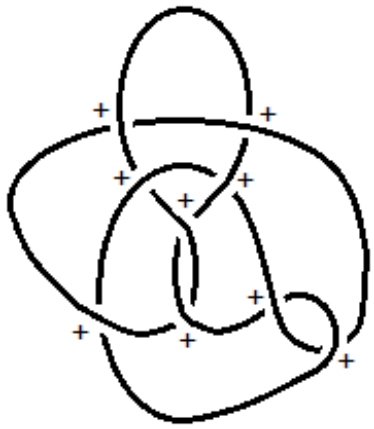


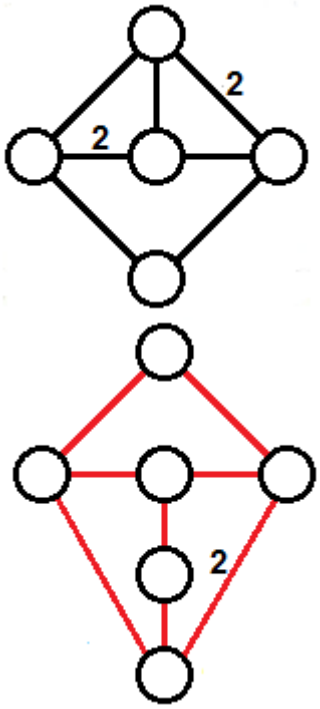
$v_{even} = x_{9.37}$

$v_{odd} = \pm y_{9.37}$

v_2	$-3[\![2]\!]$
v_3	$\pm[\![3]\!]$
v_4	$2[\![43]\!] + [\![42]\!] + [\![41]\!] - 3[\![2]\!]$
v_5	$\mp([\![54]\!] - 4[\![52]\!] + 5[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}([\![69]\!] - [\![68]\!] - 8[\![67]\!] + 3[\![66]\!] + 12[\![65]\!] - 3[\![64]\!] - 2[\![63]\!] - 4[\![62]\!] - 7[\![61]\!] + 4[\![43]\!] + 2[\![42]\!] + 2[\![41]\!] - 6[\![2]\!])$

9_{38}:



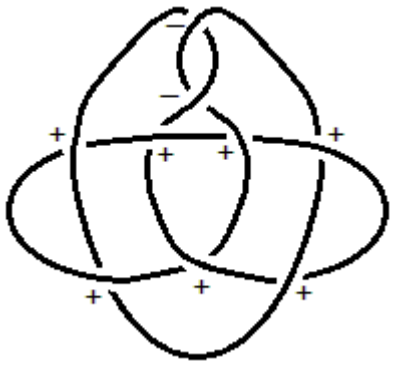


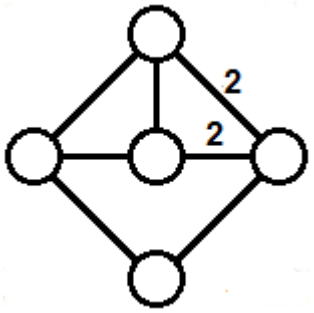
$v_{even} = x_{9.38}$

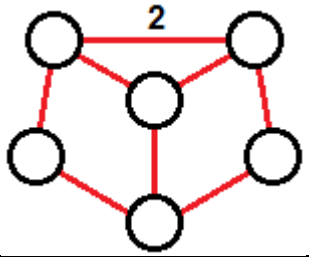
$v_{odd} = \pm y_{9.38}$

v_2	$6[\![2]\!]$
v_3	$\pm 14[\![3]\!]$
v_4	$5[\![43]\!] + 15[\![42]\!] - 10[\![41]\!] + 6[\![2]\!]$
v_5	$\pm(15[\![54]\!] - 10[\![53]\!] + 4[\![52]\!] - 3[\![51]\!] + 14[\![3]\!])$
v_6	$\frac{1}{2}(25[\![69]\!] + 40[\![68]\!] - 96[\![67]\!] + 34[\![66]\!] - 68[\![65]\!] + 3[\![64]\!] + 12[\![63]\!] - 6[\![62]\!] + 34[\![61]\!] + 10[\![43]\!] + 30[\![42]\!] - 20[\![41]\!] + 12[\![2]\!])$

9_{39}:





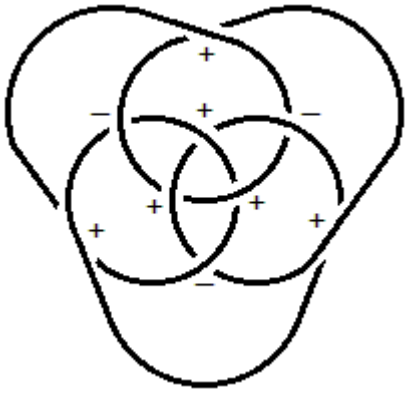


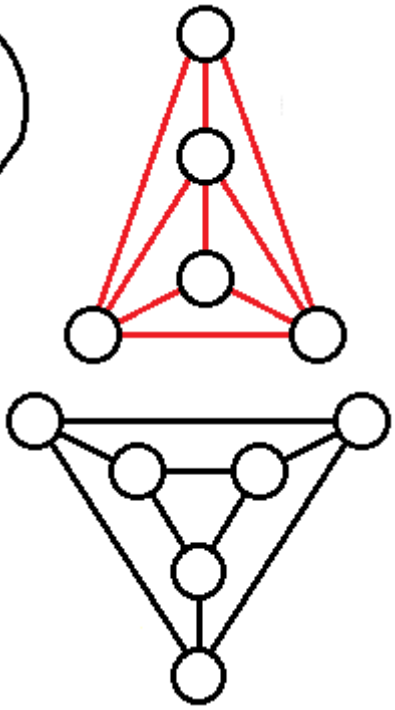
$v_{even} = x_{9.39}$

$v_{odd} = \pm y_{9.39}$

v_2	$2[\![2]\!]$
v_3	$\pm 4[\![3]\!]$
v_4	$2[\![43]\!] - [\![42]\!] - 2[\![41]\!] + 2[\![2]\!]$
v_5	$\pm(5[\![54]\!] - 8[\![53]\!] + [\![51]\!] + 4[\![3]\!])$
v_6	$\frac{1}{2}(9[\![69]\!] + 16[\![68]\!] - 44[\![67]\!] + 22[\![66]\!] - 30[\![65]\!] - [\![64]\!] + 2[\![63]\!] - 2[\![62]\!] + 16[\![61]\!] + 4[\![43]\!] - 2[\![42]\!] - 4[\![41]\!] + 4[\![2]\!])$

9_{40}:



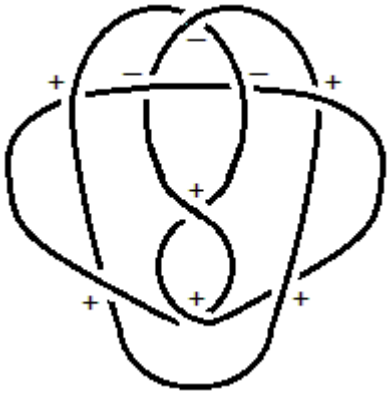


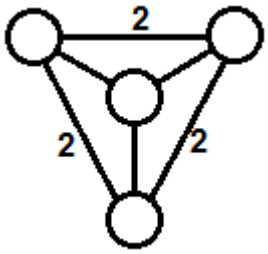
$v_{even} = x_{9.40}$

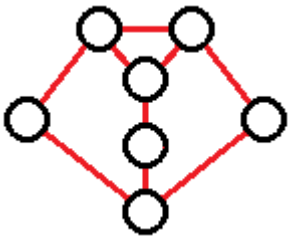
$v_{odd} = \pm y_{9.40}$

v_2	$-[\![2]\!]$
v_3	$\mp[\![3]\!]$
v_4	$[\![43]\!] - 2[\![42]\!] + [\![41]\!] - [\![2]\!]$
v_5	$\pm(2[\![53]\!] - 6[\![52]\!] + 6[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 5[\![68]\!] - 8[\![67]\!] + 5[\![66]\!] - 18[\![65]\!] + 6[\![64]\!] - 2[\![63]\!] + 6[\![62]\!] + 9[\![61]\!] + 2[\![43]\!] - 4[\![42]\!] + 2[\![41]\!] - 2[\![2]\!])$

9_{41}:





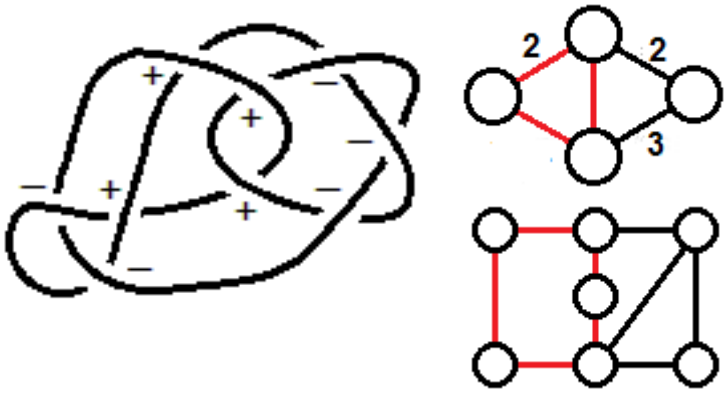


$v_{even} = x_{9.41}$

$v_{odd} = \pm y_{9.41}$

v_2	0
v_3	$\mp[\![3]\!]$
v_4	$\frac{1}{2}(-3[\![43]\!] + 6[\![42]\!])$
v_5	$\mp(3[\![54]\!] - 7[\![53]\!] + 4[\![52]\!] - 2[\![51]\!] + [\![3]\!])$
v_6	$\frac{1}{2}(-6[\![69]\!] - 9[\![68]\!] + 24[\![67]\!] - 17[\![66]\!] + 26[\![65]\!] + 2[\![63]\!] - 4[\![62]\!] - 13[\![61]\!] - 3[\![43]\!] + 6[\![42]\!])$

9_{42}:

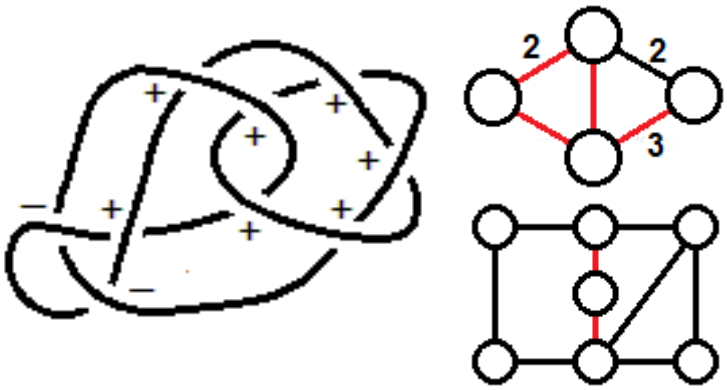


$v_{even} = x_{9.42}$

$v_{odd} = \pm y_{9.42}$

v_2	$-2[\![2]\!]$
v_3	0
v_4	$2[\![43]\!] - 2[\![42]\!] + [\![41]\!] - 2[\![2]\!]$
v_5	0
v_6	$\frac{1}{2}(2[\![69]\!] + [\![68]\!] + 2[\![67]\!] - 3[\![66]\!] - 10[\![65]\!] + 6[\![64]\!] + 4[\![62]\!] + 5[\![61]\!] + 4[\![43]\!] - 4[\![42]\!] + 2[\![41]\!] - 4[\![2]\!])$

9_{43}:

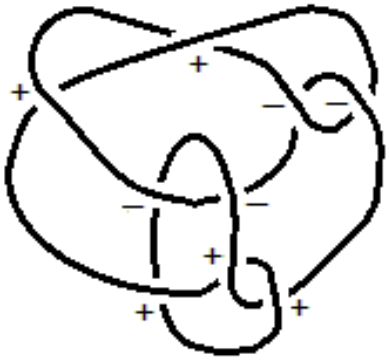


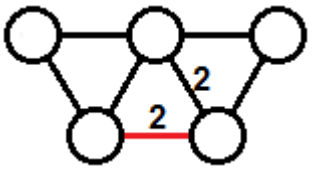
$v_{even} = x_{9.43}$

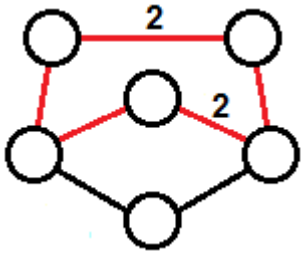
$v_{odd} = \pm y_{9.43}$

v_2	$[\![2]\!]$
v_3	$\pm 2[\![3]\!]$
v_4	$\frac{1}{2}(3[\![43]\!] - 4[\![42]\!] - 2[\![41]\!] + 2[\![2]\!])$
v_5	$\pm(2[\![54]\!] - 2[\![53]\!] - 5[\![52]\!] + 4[\![51]\!] + 2[\![3]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 5[\![68]\!] - 2[\![67]\!] - 27[\![65]\!] + 11[\![64]\!] + [\![63]\!] + 5[\![62]\!] + 15[\![61]\!] + 3[\![43]\!] - 4[\![42]\!] - 2[\![41]\!] + 2[\![2]\!])$

9_{44}:





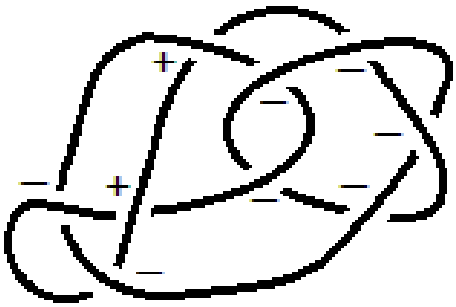


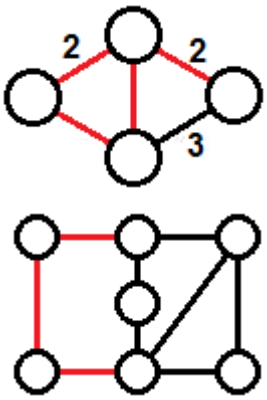
$v_{even} = x_{9.44}$

$v_{odd} = \pm y_{9.44}$

v_2	0
v_3	$\pm[\![3]\!]$
v_4	$\frac{1}{2}(-[\![43]\!] + 4[\![42]\!] - 2[\![41]\!])$
v_5	$\mp([\![53]\!] - 3[\![52]\!] + 3[\![51]\!] - [\![3]\!])$
v_6	$\frac{1}{2}(-3[\![69]\!] - 6[\![68]\!] + 14[\![67]\!] - 9[\![66]\!] + 17[\![65]\!] - 2[\![64]\!] + [\![63]\!] - 3[\![62]\!] - 8[\![61]\!] - [\![43]\!] + 4[\![42]\!] - 2[\![41]\!])$

9_{45}:



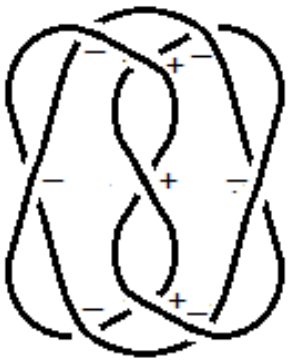


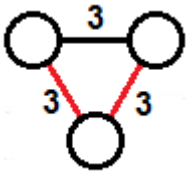
$v_{even} = x_{9.45}$

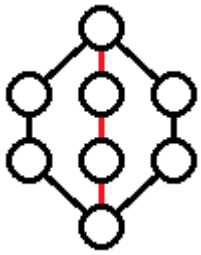
$v_{odd} = \pm y_{9.45}$

v_2	$2[\![2]\!]$
v_3	$\mp 4[\![3]\!]$
v_4	$[\![43]\!] + 2[\![42]\!] - 3[\![41]\!] + 2[\![2]\!]$
v_5	$\mp(2[\![54]\!] - 2[\![53]\!] - 2[\![51]\!] + 4[\![3]\!])$
v_6	$\frac{1}{2}(-2[\![69]\!] - 3[\![68]\!] + 14[\![67]\!] - 9[\![66]\!] + 4[\![65]\!] + 2[\![64]\!] - [\![61]\!] + 2[\![43]\!] + 4[\![42]\!] - 6[\![41]\!] + 4[\![2]\!])$

9_{46}:





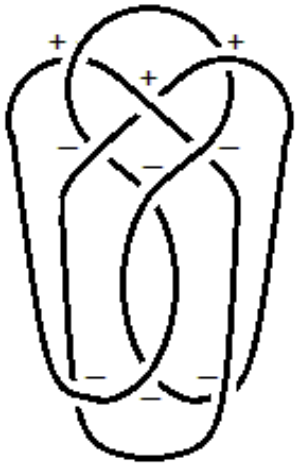


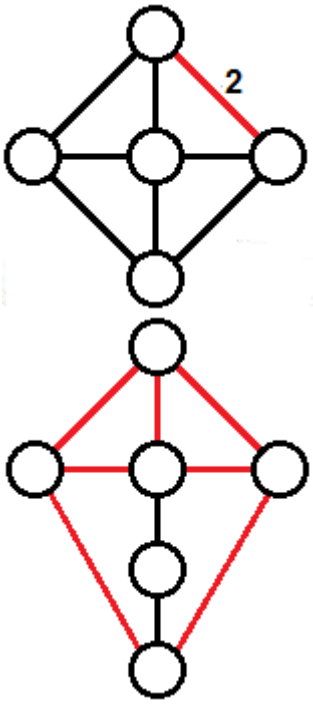
$v_{even} = x_{9.46}$

$v_{odd} = \pm y_{9.46}$

v_2	$-2[\![2]\!]$
v_3	$\pm 3[\![3]\!]$
v_4	$\frac{1}{2}(3[\![43]\!] - 6[\![42]\!] + 6[\![41]\!] - 4[\![2]\!])$
v_5	$\mp(3[\![54]\!] - 3[\![53]\!] - 4[\![52]\!] + 8[\![51]\!] - 3[\![3]\!])$
v_6	$\frac{1}{2}(10[\![69]\!] + 14[\![68]\!] - 36[\![67]\!] + 10[\![66]\!] - 30[\![65]\!] + 10[\![64]\!] + 4[\![63]\!] + 2[\![62]\!] + 14[\![61]\!] + 3[\![43]\!] - 6[\![42]\!] + 6[\![41]\!] - 4[\![2]\!])$

9_{47}:



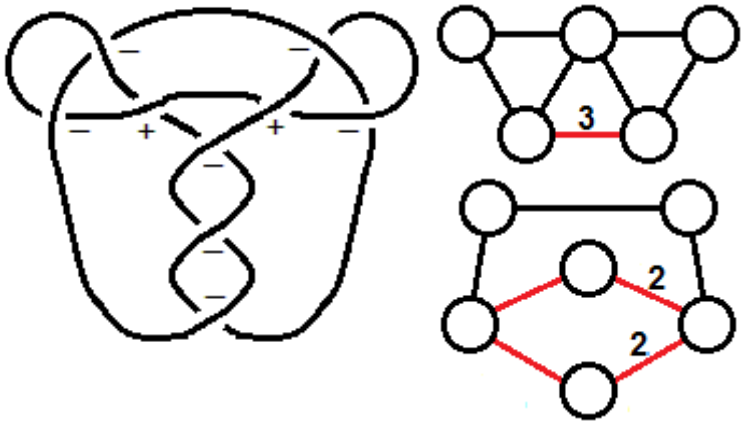


$v_{even} = x_{9.47}$

$v_{odd} = \pm y_{9.47}$

v_2	$-[\![2]\!]$
v_3	$\pm 2[\![3]\!]$
v_4	$\frac{1}{2}(-[\![43]\!] + 2[\![42]\!] + 2[\![41]\!] - 2[\![2]\!])$
v_5	$\mp([\![53]\!] - [\![52]\!] + 2[\![51]\!] - 2[\![3]\!])$
v_6	$\frac{1}{2}(2[\![69]\!] + 5[\![68]\!] - 20[\![67]\!] + 8[\![66]\!] + 5[\![65]\!] - 5[\![64]\!] + [\![63]\!] - 5[\![62]\!] - 3[\![61]\!] - [\![43]\!] + 2[\![42]\!] + 2[\![41]\!] - 2[\![2]\!])$

9_{48}:

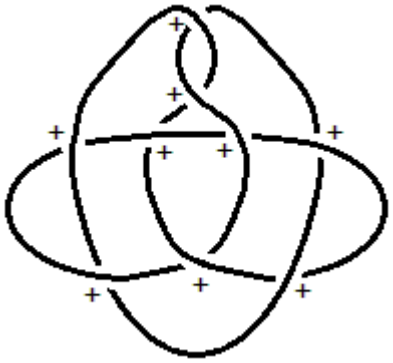


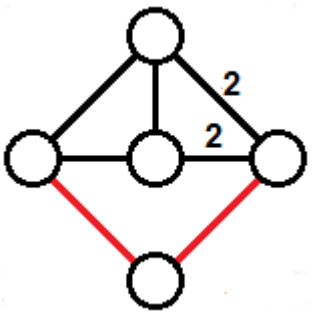
$v_{even} = x_{9.48}$

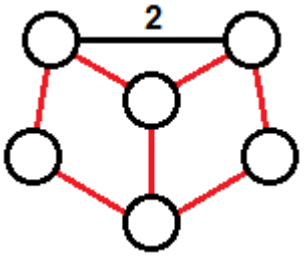
$v_{odd} = \pm y_{9.48}$

v_2	$3[\![2]\!]$
v_3	$\overline{+}5[\![3]\!]$
v_4	$2[\![43]\!] - [\![41]\!] + 3[\![2]\!]$
v_5	$\overline{+}(5[\![54]\!] - 7[\![53]\!] + 3[\![51]\!] + 5[\![3]\!])$
v_6	$\frac{1}{2}(11[\![69]\!] + 21[\![68]\!] - 64[\![67]\!] + 35[\![66]\!] - 34[\![65]\!] - 5[\![64]\!] + 2[\![63]\!] - 4[\![62]\!] + 17[\![61]\!] + 4[\![43]\!] - 2[\![41]\!] + 6[\![2]\!])$

9_{49}:







$v_{even} = x_{9.49}$

$v_{odd} = \pm y_{9.49}$

v_2	$6[\![2]\!]$
v_3	$\pm 14[\![3]\!]$
v_4	$6[\![43]\!] + 12[\![42]\!] - 9[\![41]\!] + 6[\![2]\!]$
v_5	$\pm(18[\![54]\!] - 14[\![53]\!] - 4[\![52]\!] + 8[\![51]\!] + 14[\![3]\!])$
v_6	$\frac{1}{2}(38[\![69]\!] + 69[\![68]\!] - 178[\![67]\!] + 73[\![66]\!] - 126[\![65]\!] + 10[\![64]\!] + 18[\![63]\!] - 6[\![62]\!] + 63[\![61]\!] + 12[\![43]\!] + 24[\![42]\!] - 18[\![41]\!] + 12[\![2]\!])$