1 BLT set 2 over GF(19)

Points on the quadric $x_0^2 + x_1x_2 + x_3x_4$:

$P_1 = (0, 1, 0, 0, 0)$

$P_2 = (0, 0, 1, 0, 0)$

$P_3 = (0, 1, 9, 18, 9)$

$P_4 = (0, 1, 7, 9, 14)$

$P_5 = (0, 1, 1, 6, 3)$

$P_6 = (0, 1, 4, 12, 6)$

$P_7 = (0, 1, 11, 15, 17)$

$P_8 = (0, 1, 5, 3, 11)$

$P_9 = (0, 1, 11, 4, 2)$

$P_{10} = (0, 1, 16, 14, 7)$

$P_{11} = (1, 4, 6, 13, 1)$

$P_{12} = (1, 10, 15, 12, 8)$

$P_{13} = (1, 15, 13, 17, 3)$

$P_{14} = (1, 6, 9, 7, 3)$

$P_{15} = (1, 9, 4, 3, 13)$

$P_{16} = (1, 16, 5, 17, 12)$

$P_{17} = (1, 8, 12, 16, 7)$

$P_{18} = (1, 13, 10, 13, 6)$

$P_{19} = (1, 3, 14, 14, 1)$

$P_{20} = (1, 11, 7, 5, 11)$

Stabilizer of order 800 is generated by:

$$g_1 = \begin{pmatrix} 17 & 0 & 0 & 14 & 12 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 13 & 0 & 0 & 9 & 15 \\ 12 & 0 & 0 & 3 & 9 \end{pmatrix}$$

$$g_2 = \begin{pmatrix} 16 & 0 & 0 & 15 & 2 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 0 & 2 & 9 \\ 17 & 0 & 0 & 17 & 2 \end{pmatrix}$$

$$g_3 = \begin{pmatrix} 0 & 0 & 0 & 6 & 16 \\ 0 & 18 & 10 & 1 & 10 \\ 0 & 0 & 18 & 0 & 0 \\ 8 & 0 & 10 & 10 & 5 \\ 3 & 0 & 1 & 1 & 10 \end{pmatrix}$$

$$g_4 = \begin{pmatrix} 12 & 0 & 0 & 1 & 9 \\ 0 & 0 & 8 & 0 & 0 \\ 0 & 12 & 13 & 7 & 13 \\ 5 & 0 & 10 & 16 & 2 \\ 9 & 0 & 1 & 8 & 16 \end{pmatrix}$$

$$g_5 = \begin{pmatrix} 15 & 0 & 0 & 7 & 6 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 4 & 1 & 12 & 6 \\ 3 & 6 & 0 & 11 & 13 \\ 13 & 12 & 0 & 14 & 11 \end{pmatrix}$$

$$g_6 = \begin{pmatrix} 15 & 0 & 0 & 12 & 13 \\ 0 & 11 & 5 & 2 & 1 \\ 0 & 17 & 17 & 7 & 13 \\ 16 & 7 & 10 & 15 & 15 \\ 6 & 14 & 1 & 3 & 15 \end{pmatrix}$$

$$g_7 = \begin{pmatrix} 0 & 13 & 6 & 13 & 16 \\ 5 & 1 & 11 & 8 & 5 \\ 2 & 7 & 1 & 7 & 12 \\ 8 & 16 & 18 & 8 & 13 \\ 16 & 18 & 1 & 18 & 8 \end{pmatrix}$$

Induced action on the BLT-set:

The induced group has order 800 and is generated by:

g_1 =(11, 12, 16, 17, 18, 13, 15, 19, 20, 14)

g_2 =(11, 12)(13, 15)(14, 16)(17, 20)(18, 19)

g_3 =(1, 3)(5, 6)(7, 8)(9, 10)(11, 14)(12, 20)(13, 18)(15, 17)(16, 19)

g_4 =(1, 2, 3, 7, 8)(4, 6, 9, 10, 5)(11, 20, 15, 18, 16)(12, 14, 19, 13, 17)

g_5 =(2, 8)(3, 7)(4, 10)(6, 9)(11, 17)(12, 16)(13, 20)(14, 18)(15, 19)

g_6 =(1, 10, 7, 6, 2, 5, 8, 9, 3, 4)(12, 14)(15, 18)(16, 20)(17, 19)

g_7 =(1, 11, 2, 18)(3, 20, 8, 15)(4, 14, 5, 13)(6, 17, 10, 12)(7, 16)(9, 19)

Kernel has order 1 and is generated by:

There are 1 orbits on the BLT set.

The orbit length are [20]

The orbits are:

$O_0 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20\}$ (length 20)