1 BLT set 6 over GF(17)

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

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

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

$P_3 = (0, 1, 11, 16, 11)$

$P_4 = (0, 1, 11, 9, 12)$

$P_5 = (1, 1, 6, 10, 1)$

$P_6 = (1, 9, 3, 3, 2)$

$P_7 = (1, 13, 11, 6, 10)$

$P_8 = (1, 16, 10, 15, 4)$

$P_9 = (1, 10, 8, 6, 12)$

$P_{10} = (1, 7, 9, 1, 4)$

$P_{11} = (1, 5, 13, 7, 10)$

$P_{12} = (1, 5, 13, 15, 16)$

$P_{13} = (1, 9, 5, 7, 8)$

$P_{14} = (1, 15, 3, 12, 16)$

$P_{15} = (1, 6, 8, 14, 5)$

$P_{16} = (1, 7, 2, 16, 15)$

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

$P_{18} = (1, 5, 1, 14, 2)$

Stabilizer of order 4896 is generated by:

$$g_1 = \begin{pmatrix} 16 & 0 & 0 & 0 & 0 \\ 0 & 0 & 11 & 0 & 0 \\ 0 & 14 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 5 \\ 0 & 0 & 0 & 7 & 0 \end{pmatrix}$$

$$g_2 = \begin{pmatrix} 16 & 0 & 0 & 0 & 0 \\ 0 & 15 & 12 & 16 & 10 \\ 0 & 6 & 15 & 11 & 15 \\ 0 & 15 & 10 & 2 & 10 \\ 0 & 11 & 16 & 14 & 2 \end{pmatrix}$$

$$g_3 = \begin{pmatrix} 14 & 0 & 4 & 9 & 1 \\ 2 & 2 & 12 & 3 & 2 \\ 0 & 11 & 2 & 6 & 2 \\ 9 & 2 & 2 & 0 & 7 \\ 13 & 6 & 3 & 3 & 0 \end{pmatrix}$$

$$g_4 = \begin{pmatrix} 3 & 5 & 0 & 7 & 11 \\ 0 & 16 & 0 & 0 & 0 \\ 11 & 14 & 16 & 16 & 5 \\ 14 & 5 & 0 & 16 & 9 \\ 12 & 16 & 0 & 8 & 16 \end{pmatrix}$$

$$g_5 = \begin{pmatrix} 13 & 0 & 0 & 15 & 16 \\ 15 & 8 & 12 & 5 & 14 \\ 0 & 0 & 15 & 0 & 0 \\ 9 & 0 & 12 & 6 & 12 \\ 1 & 0 & 2 & 14 & 6 \end{pmatrix}$$

$$g_6 = \begin{pmatrix} 16 & 15 & 0 & 14 & 0 \\ 0 & 9 & 0 & 0 & 0 \\ 1 & 7 & 2 & 16 & 15 \\ 13 & 5 & 0 & 11 & 14 \\ 0 & 11 & 0 & 11 & 0 \end{pmatrix}$$

$$g_7 = \begin{pmatrix} 15 & 0 & 0 & 14 & 1 \\ 0 & 16 & 0 & 0 & 0 \\ 0 & 0 & 16 & 0 & 0 \\ 16 & 0 & 0 & 16 & 1 \\ 5 & 0 & 0 & 15 & 4 \end{pmatrix}$$

$$g_8 = \begin{pmatrix} 7 & 0 & 0 & 14 & 16 \\ 0 & 8 & 0 & 0 & 0 \\ 0 & 0 & 15 & 0 & 0 \\ 16 & 0 & 0 & 11 & 3 \\ 12 & 0 & 0 & 11 & 7 \end{pmatrix}$$

Induced action on the BLT-set:

The induced group has order 4896 and is generated by:

g_1 =(1, 2)(3, 4)(7, 8)(9, 10)(11, 12)(13, 14)(15, 16)(17, 18)

g_2 =(1, 4)(2, 3)(5, 6)(7, 14)(8, 13)(9, 18)(10, 17)(11, 15)(12, 16)

g_3 =(1, 5)(2, 3)(4, 6)(7, 18)(8, 12)(9, 14)(10, 11)(13, 16)(15, 17)

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

g_5 =(1, 7, 4, 10, 8, 6, 17, 11, 12, 15, 18, 13, 14, 16, 5, 3)

g_6 =(2, 16, 7, 17, 4, 8, 3, 5, 13, 18, 6, 11, 10, 12, 14, 9)

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

g_8 =(3, 17, 6, 18, 4, 13, 11, 15, 10, 7, 5, 8, 9, 16, 12, 14)

Kernel has order 1 and is generated by:

There are 1 orbits on the BLT set.

The orbit length are [18]

The orbits are:

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