1 BLT set 8 over GF(49)

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

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

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

$P_3 = (0, 1, 37, 6, 37)$

$P_4 = (0, 1, 16, 37, 29)$

$P_5 = (0, 1, 39, 5, 44)$

$P_6 = (1, 15, 16, 6, 26)$

$P_7 = (1, 25, 1, 17, 43)$

$P_8 = (1, 7, 47, 47, 19)$

$P_9 = (1, 20, 48, 31, 13)$

$P_{10} = (1, 29, 14, 8, 48)$

$P_{11} = (1, 6, 25, 21, 20)$

$P_{12} = (1, 24, 3, 42, 45)$

$P_{13} = (1, 37, 6, 9, 9)$

$P_{14} = (1, 5, 34, 16, 48)$

$P_{15} = (1, 5, 44, 40, 28)$

$P_{16} = (1, 8, 38, 45, 6)$

$P_{17} = (0, 1, 7, 33, 8)$

$P_{18} = (1, 21, 11, 42, 38)$

$P_{19} = (1, 35, 4, 10, 34)$

$P_{20} = (1, 24, 2, 39, 27)$

$P_{21} = (1, 47, 22, 39, 34)$

$P_{22} = (1, 15, 21, 1, 38)$

$P_{23} = (1, 23, 42, 38, 16)$

$P_{24} = (1, 18, 24, 26, 26)$

$P_{25} = (1, 31, 6, 29, 46)$

$P_{26} = (1, 25, 15, 45, 14)$

$P_{27} = (1, 30, 24, 34, 28)$

$P_{28} = (1, 40, 9, 40, 8)$

$P_{29} = (1, 34, 18, 14, 46)$

$P_{30} = (1, 34, 6, 8, 31)$

$P_{31} = (1, 37, 30, 14, 45)$

$P_{32} = (1, 12, 47, 21, 29)$

$P_{33} = (1, 8, 20, 23, 19)$

$P_{34} = (1, 14, 36, 24, 8)$

$P_{35} = (1, 29, 42, 6, 20)$

$P_{36} = (1, 17, 41, 18, 40)$

$P_{37} = (1, 15, 39, 22, 4)$

$P_{38} = (1, 19, 4, 42, 1)$

$P_{39} = (1, 36, 19, 46, 15)$

$P_{40} = (1, 42, 38, 25, 33)$

$P_{41} = (1, 14, 38, 33, 3)$

$P_{42} = (1, 41, 48, 11, 20)$

$P_{43} = (1, 3, 48, 8, 25)$

$P_{44} = (1, 47, 17, 41, 26)$

$P_{45} = (1, 11, 19, 16, 3)$

$P_{46} = (1, 6, 14, 41, 26)$

$P_{47} = (1, 41, 24, 35, 15)$

$P_{48} = (1, 1, 44, 35, 21)$

$P_{49} = (1, 8, 11, 29, 32)$

$P_{50} = (1, 1, 13, 42, 1)$

Stabilizer of order 200 is generated by:

$$g_1 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 35 & 2 & 14 & 2 \\ 0 & 33 & 35 & 34 & 41 \\ 0 & 41 & 2 & 14 & 14 \\ 0 & 34 & 14 & 22 & 14 \end{pmatrix}, 0$$

with 50 fixed points

$$g_2 = \begin{pmatrix} 42 & 0 & 44 & 47 & 27 \\ 22 & 24 & 4 & 46 & 32 \\ 0 & 9 & 24 & 47 & 24 \\ 38 & 24 & 32 & 8 & 22 \\ 27 & 47 & 46 & 15 & 8 \end{pmatrix}, 0$$

with 50 fixed points

$$g_3 = \begin{pmatrix} 18 & 34 & 0 & 47 & 10 \\ 0 & 38 & 0 & 0 & 0 \\ 44 & 40 & 15 & 12 & 31 \\ 24 & 12 & 0 & 36 & 29 \\ 8 & 27 & 0 & 5 & 41 \end{pmatrix}, 1$$

with 8 fixed points The induced group has order 200 and is generated by:

g_1 =(1, 3)(2, 4)(5, 17)(6, 34)(7, 50)(8, 43)(9, 33)(10, 26)(11, 18)(12, 39)(13, 48)(14, 28)(15, 29)(16, 27)(19, 47)(20, 44)(21, 32)(22, 25)(23, 36)(24, 38)(30, 37)(31, 42)(35, 40)(41, 45)(46, 49)

g_2 =(1, 47)(2, 3)(4, 11)(5, 49)(6, 10)(7, 38)(8, 24)(9, 37)(12, 19)(13, 25)(14, 30)(15, 42)(16, 28)(17, 27)(18, 48)(20, 29)(21, 22)(23, 32)(26, 45)(31, 50)(33, 41)(34, 44)(35, 36)(39, 46)(40, 43)

g_3 =(2, 35, 19, 37)(3, 9, 42, 28)(4, 47, 50, 29)(5, 6, 26, 46)(7, 16, 10, 21)(8, 12, 13, 44)(11, 34, 39, 31)(14, 43, 23, 33)(15, 24, 20, 45)(17, 49, 25, 48)(18, 36, 38, 32)(22, 27, 40, 41)

Kernel has order 1 and is generated by:

There are 1 orbits on the BLT set.

The orbit length are [50]

The orbits are:

$O_0 = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,$

(length 50)