A7

subset	type	single cell	free	orbit basis
{}		CHAMBER	(FREE)	(YES)
{1}	A_1	CHAMBER	(FREE)	(YES)
{2}	A_1	CHAMBER	(FREE)	(YES)
{3}	A_1	CHAMBER	(FREE)	(YES)
{4}	A_1	CHAMBER	(FREE)	(YES)
{5}	A_1	CHAMBER	(FREE)	(YES)
{6}	A_1	CHAMBER	(FREE)	(YES)
{7}	A_1	CHAMBER	(FREE)	(YES)
{1,2}	A_2	CHAMBER	(FREE)	(YES)
{2,3}	A_2	CHAMBER	(FREE)	(YES)
{3,4}	A_2	CHAMBER	(FREE)	(YES)
{4,5}	A_2	CHAMBER	(FREE)	(YES)
{5,6}	A_2	CHAMBER	(FREE)	(YES)
{6,7}	A_2	CHAMBER	(FREE)	(YES)
{1,2,3}	A_3	CHAMBER	(FREE)	(YES)
{2,3,4}	A_3	CHAMBER	(FREE)	(YES)
{3,4,5}	A_3	CHAMBER	(FREE)	(YES)
{4,5,6}	A_3	CHAMBER	(FREE)	(YES)
{5,6,7}	A_3	CHAMBER	(FREE)	(YES)
{1,2,3,4}	A_4	CHAMBER	(FREE)	(YES)
{2,3,4,5}	A_4	CHAMBER	(FREE)	(YES)
{3,4,5,6}	A_4	CHAMBER	(FREE)	(YES)
{4,5,6,7}	A_4	CHAMBER	(FREE)	(YES)
{1,2,3,4,5}	A_5	CHAMBER	(FREE)	(YES)
{2,3,4,5,6}	A_5	CHAMBER	(FREE)	(YES)
{3,4,5,6,7}	A_5	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6}	A_6	CHAMBER	(FREE)	(YES)
{2,3,4,5,6,7}	A_6	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6,7}	A_7	CHAMBER	(FREE)	(YES)
{1,3}	$A_1 \times A_1$	no	FREE	no
{1,4}	$A_1 \times A_1$	no	FREE	no
{1,5}	$A_1 \times A_1$	no	FREE	no
{1,6}	$A_1 \times A_1$	no	FREE	no
{1,7}	$A_1 \times A_1$	no	FREE	no
{2,4}	$A_1 \times A_1$	no	FREE	no
{2,5}	$A_1 \times A_1$	no	FREE	no
{2,6}	$A_1 \times A_1$	no	FREE	no
{2,7}	$A_1 \times A_1$	no	FREE	no
{3,5}	$A_1 \times A_1$	no	FREE	no
{3,6}	$A_1 \times A_1$	no	FREE	no
{3,7}	$A_1 \times A_1$	no	FREE	no

$\{4,6\}$	$A_1 \times A_1$	no	FREE	no
$\{4,7\}$	$A_1 \times A_1$	no	FREE	no
$\{5,7\}$	$A_1 \times A_1$	no	FREE	no
$\{1,2,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,6\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,7\}$	$A_1 \times A_2$	no	FREE	no
$\{1,3,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{1,6,7\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,7\}$	$A_1 \times A_2$	no	FREE	no
$\{2,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,6,7\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,7\}$	$A_1 \times A_2$	no	FREE	no
$\{3,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,6,7\}$	$A_1 \times A_2$	no	FREE	no
$\{4,5,7\}$	$A_1 \times A_2$	no	FREE	no
$\{4,6,7\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,3,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,6\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,7\}$	$A_1 \times A_3$	no	FREE	no
$\{1,3,4,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{1,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,7\}$	$A_1 \times A_3$	no	FREE	no
$\{2,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{3,4,5,7\}$	$A_1 \times A_3$	no	FREE	no
$\{3,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,4,6\}$	$A_1 \times A_4$	no	FREE	no
$\{1,2,3,4,7\}$	$A_1 \times A_4$	no	FREE	no
$\{1,3,4,5,6\}$	$A_1 \times A_4$	no	FREE	no
$\{1,4,5,6,7\}$	$A_1 \times A_4$	no	FREE	no
$\{2,3,4,5,7\}$	$A_1 \times A_4$	no	FREE	no
$\{2,4,5,6,7\}$	$A_1 \times A_4$	no	FREE	no
$\{1,2,3,4,5,7\}$	$A_1 \times A_5$	no	no	(no)
$\{1,3,4,5,6,7\}$	$A_1 \times A_5$	no	no	(no)
$\{1,2,4,5\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,5,6\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,6,7\}$	$A_2 \times A_2$	no	FREE	no

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$\{2,3,5,6\}$	$A_2 \times A_2$	no	FREE	no
$\{2,3,6,7\}$	$A_2 \times A_2$	no	FREE	no
$\{3,4,6,7\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,3,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,3,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,5,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{2,3,4,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{2,3,5,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,3,4,6,7\}$	$A_2 \times A_4$	no	FREE	no
$\{1,2,4,5,6,7\}$	$A_2 \times A_4$	no	FREE	no
$\{1,2,3,5,6,7\}$	$A_3 \times A_3$	no	no	(no)
$\{1,3,5\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{3,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,2,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,5,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,4,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,3,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,4,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,3,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,3,4,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,3,5,6,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,2,4,5,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	no
$\{1,2,4,6,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	no
$\{1,3,4,6,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	no
$\{1,3,5,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(no)

B7

subset	type	single cell	free	orbit basis
{}		CHAMBER	(FREE)	(YES)
{1}	A_1	CHAMBER	(FREE)	(YES)
{2}	A_1	CHAMBER	(FREE)	(YES)
{3}	A_1	CHAMBER	(FREE)	(YES)
{4}	A_1	CHAMBER	(FREE)	(YES)
{5}	A_1	CHAMBER	(FREE)	(YES)
{6}	A_1	CHAMBER	(FREE)	(YES)
{7}	A_1	CHAMBER	(FREE)	(YES)
{1,2}	A_2	CHAMBER	(FREE)	(YES)
{2,3}	A_2	CHAMBER	(FREE)	(YES)
{3,4}	A_2	CHAMBER	(FREE)	(YES)
{4,5}	A_2	CHAMBER	(FREE)	(YES)
{5,6}	A_2	CHAMBER	(FREE)	(YES)
{1,2,3}	A_3	CHAMBER	(FREE)	(YES)
{2,3,4}	A_3	CHAMBER	(FREE)	(YES)
{3,4,5}	A_3	CHAMBER	(FREE)	(YES)
{4,5,6}	A_3	CHAMBER	(FREE)	(YES)
{1,2,3,4}	A_4	CHAMBER	(FREE)	(YES)
{2,3,4,5}	A_4	CHAMBER	(FREE)	(YES)
{3,4,5,6}	A_4	CHAMBER	(FREE)	(YES)
{1,2,3,4,5}	A_5	CHAMBER	(FREE)	(YES)
{2,3,4,5,6}	A_5	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6}	A_6	CHAMBER	(FREE)	(YES)
{6,7}	B_2	CHAMBER	(FREE)	(YES)
{5,6,7}	B_3	CHAMBER	(FREE)	(YES)
{4,5,6,7}	B_4	CHAMBER	(FREE)	(YES)
{3,4,5,6,7}	B_5	CHAMBER	(FREE)	(YES)
{2,3,4,5,6,7}	B_6	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6,7}	B_7	CHAMBER	(FREE)	(YES)
{1,3}	$A_1 \times A_1$	no	FREE	no
{1,4}	$A_1 \times A_1$	no	FREE	no
{1,5}	$A_1 \times A_1$	no	FREE	no
{1,6}	$A_1 \times A_1$	no	FREE	no
{1,7}	$A_1 \times A_1$	no	FREE	YES
{2,4}	$A_1 \times A_1$	no	FREE	no
{2,5}	$A_1 \times A_1$	no	FREE	no
{2,6}	$A_1 \times A_1$	no	FREE	no
{2,7}	$A_1 \times A_1$	no	FREE	YES
{3,5}	$A_1 \times A_1$	no	FREE	no
{3,6}	$A_1 \times A_1$	no	FREE	no
{3,7}	$A_1 \times A_1$	no	FREE	YES

$\{4, 6\}$	$A_1 \times A_1$	no	FREE	no
$\{4, 7\}$	$A_1 \times A_1$	no	FREE	YES
$\{5, 7\}$	$A_1 \times A_1$	no	FREE	YES
$\{1, 2, 4\}$	$A_1 \times A_2$	no	FREE	no
$\{1, 2, 5\}$	$A_1 \times A_2$	no	FREE	no
$\{1, 2, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{1, 2, 7\}$	$A_1 \times A_2$	no	FREE	YES
$\{1, 3, 4\}$	$A_1 \times A_2$	no	FREE	no
$\{1, 4, 5\}$	$A_1 \times A_2$	no	FREE	no
$\{1, 5, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{2, 3, 5\}$	$A_1 \times A_2$	no	FREE	no
$\{2, 3, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{2, 3, 7\}$	$A_1 \times A_2$	no	FREE	YES
$\{2, 4, 5\}$	$A_1 \times A_2$	no	FREE	no
$\{2, 5, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{3, 4, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{3, 4, 7\}$	$A_1 \times A_2$	no	FREE	YES
$\{3, 5, 6\}$	$A_1 \times A_2$	no	FREE	no
$\{4, 5, 7\}$	$A_1 \times A_2$	no	FREE	YES
$\{1, 2, 3, 5\}$	$A_1 \times A_3$	no	FREE	no
$\{1, 2, 3, 6\}$	$A_1 \times A_3$	no	FREE	no
$\{1, 2, 3, 7\}$	$A_1 \times A_3$	no	FREE	YES
$\{1, 3, 4, 5\}$	$A_1 \times A_3$	no	FREE	no
$\{1, 4, 5, 6\}$	$A_1 \times A_3$	no	FREE	no
$\{2, 3, 4, 6\}$	$A_1 \times A_3$	no	FREE	no
$\{2, 3, 4, 7\}$	$A_1 \times A_3$	no	FREE	YES
$\{2, 4, 5, 6\}$	$A_1 \times A_3$	no	FREE	no
$\{3, 4, 5, 7\}$	$A_1 \times A_3$	no	FREE	YES
$\{1, 2, 3, 4, 6\}$	$A_1 \times A_4$	no	FREE	no
$\{1, 2, 3, 4, 7\}$	$A_1 \times A_4$	no	FREE	YES
$\{1, 3, 4, 5, 6\}$	$A_1 \times A_4$	no	FREE	no
$\{2, 3, 4, 5, 7\}$	$A_1 \times A_4$	no	FREE	YES
$\{1, 2, 3, 4, 5, 7\}$	$A_1 \times A_5$	no	no	(YES)
$\{1, 6, 7\}$	$A_1 \times B_2$	no	FREE	no
$\{2, 6, 7\}$	$A_1 \times B_2$	no	FREE	no
$\{3, 6, 7\}$	$A_1 \times B_2$	no	FREE	no
$\{4, 6, 7\}$	$A_1 \times B_2$	no	FREE	no
$\{1, 5, 6, 7\}$	$A_1 \times B_3$	no	FREE	no
$\{2, 5, 6, 7\}$	$A_1 \times B_3$	no	FREE	no
$\{3, 5, 6, 7\}$	$A_1 \times B_3$	no	FREE	no
$\{1, 4, 5, 6, 7\}$	$A_1 \times B_4$	no	FREE	no
$\{2, 4, 5, 6, 7\}$	$A_1 \times B_4$	no	FREE	no
$\{1, 3, 4, 5, 6, 7\}$	$A_1 \times B_5$	no	no	(no)
$\{1, 2, 4, 5\}$	$A_2 \times A_2$	no	FREE	no
$\{1, 2, 5, 6\}$	$A_2 \times A_2$	no	FREE	no
$\{2, 3, 5, 6\}$	$A_2 \times A_2$	no	FREE	no

$\{1,2,3,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{2,3,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{3,4,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{1,2,5,6,7\}$	$A_2 \times B_3$	no	FREE	no
$\{2,3,5,6,7\}$	$A_2 \times B_3$	no	FREE	no
$\{1,2,4,5,6,7\}$	$A_2 \times B_4$	no	FREE	no
$\{1,2,3,6,7\}$	$A_3 \times B_2$	no	FREE	no
$\{2,3,4,6,7\}$	$A_3 \times B_2$	no	FREE	no
$\{1,2,3,5,6,7\}$	$A_3 \times B_3$	no	no	(no)
$\{1,2,3,4,6,7\}$	$A_4 \times B_2$	no	FREE	no
$\{1,3,5\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{3,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,2,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,5,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,3,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,3,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,3,4,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,3,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{1,4,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{2,4,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{1,3,5,6,7\}$	$A_1 \times A_1 \times B_3$	no	no	(no)
$\{1,2,4,5,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	no
$\{1,2,4,6,7\}$	$A_1 \times A_2 \times B_2$	no	FREE	no
$\{1,3,4,6,7\}$	$A_1 \times A_2 \times B_2$	no	FREE	no
$\{1,3,5,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(no)

C7

subset	type	single cell	free	orbit basis
{}		CHAMBER	(FREE)	(YES)
{1}	A_1	CHAMBER	(FREE)	(YES)
{2}	A_1	CHAMBER	(FREE)	(YES)
{3}	A_1	CHAMBER	(FREE)	(YES)
{4}	A_1	CHAMBER	(FREE)	(YES)
{5}	A_1	CHAMBER	(FREE)	(YES)
{6}	A_1	CHAMBER	(FREE)	(YES)
{7}	A_1	CHAMBER	(FREE)	(YES)
{1,2}	A_2	CHAMBER	(FREE)	(YES)
{2,3}	A_2	CHAMBER	(FREE)	(YES)
{3,4}	A_2	CHAMBER	(FREE)	(YES)
{4,5}	A_2	CHAMBER	(FREE)	(YES)
{5,6}	A_2	CHAMBER	(FREE)	(YES)
{1,2,3}	A_3	CHAMBER	(FREE)	(YES)
{2,3,4}	A_3	CHAMBER	(FREE)	(YES)
{3,4,5}	A_3	CHAMBER	(FREE)	(YES)
{4,5,6}	A_3	CHAMBER	(FREE)	(YES)
{1,2,3,4}	A_4	CHAMBER	(FREE)	(YES)
{2,3,4,5}	A_4	CHAMBER	(FREE)	(YES)
{3,4,5,6}	A_4	CHAMBER	(FREE)	(YES)
{1,2,3,4,5}	A_5	CHAMBER	(FREE)	(YES)
{2,3,4,5,6}	A_5	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6}	A_6	CHAMBER	(FREE)	(YES)
{6,7}	B_2	CHAMBER	(FREE)	(YES)
{5,6,7}	C_3	CHAMBER	(FREE)	(YES)
{4,5,6,7}	C_4	CHAMBER	(FREE)	(YES)
{3,4,5,6,7}	C_5	CHAMBER	(FREE)	(YES)
{2,3,4,5,6,7}	C_6	CHAMBER	(FREE)	(YES)
{1,2,3,4,5,6,7}	C_7	CHAMBER	(FREE)	(YES)
{1,3}	$A_1 \times A_1$	no	FREE	no
{1,4}	$A_1 \times A_1$	no	FREE	no
{1,5}	$A_1 \times A_1$	no	FREE	no
{1,6}	$A_1 \times A_1$	no	FREE	no
{1,7}	$A_1 \times A_1$	no	FREE	YES
{2,4}	$A_1 \times A_1$	no	FREE	no
{2,5}	$A_1 \times A_1$	no	FREE	no
{2,6}	$A_1 \times A_1$	no	FREE	no
{2,7}	$A_1 \times A_1$	no	FREE	YES
{3,5}	$A_1 \times A_1$	no	FREE	no
{3,6}	$A_1 \times A_1$	no	FREE	no
{3,7}	$A_1 \times A_1$	no	FREE	YES

$\{4,6\}$	$A_1 \times A_1$	no	FREE	no
$\{4,7\}$	$A_1 \times A_1$	no	FREE	YES
$\{5,7\}$	$A_1 \times A_1$	no	FREE	YES
$\{1,2,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,6\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,7\}$	$A_1 \times A_2$	no	FREE	YES
$\{1,3,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,7\}$	$A_1 \times A_2$	no	FREE	YES
$\{2,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,7\}$	$A_1 \times A_2$	no	FREE	YES
$\{3,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{4,5,7\}$	$A_1 \times A_2$	no	FREE	YES
$\{1,2,3,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,6\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,7\}$	$A_1 \times A_3$	no	FREE	YES
$\{1,3,4,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,7\}$	$A_1 \times A_3$	no	FREE	YES
$\{2,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{3,4,5,7\}$	$A_1 \times A_3$	no	FREE	YES
$\{1,2,3,4,6\}$	$A_1 \times A_4$	no	FREE	no
$\{1,2,3,4,7\}$	$A_1 \times A_4$	no	FREE	YES
$\{1,3,4,5,6\}$	$A_1 \times A_4$	no	FREE	no
$\{2,3,4,5,7\}$	$A_1 \times A_4$	no	FREE	YES
$\{1,2,3,4,5,7\}$	$A_1 \times A_5$	no	FREE	YES
$\{1,6,7\}$	$A_1 \times B_2$	no	FREE	no
$\{2,6,7\}$	$A_1 \times B_2$	no	FREE	no
$\{3,6,7\}$	$A_1 \times B_2$	no	FREE	no
$\{4,6,7\}$	$A_1 \times B_2$	no	FREE	no
$\{1,5,6,7\}$	$A_1 \times C_3$	no	FREE	no
$\{2,5,6,7\}$	$A_1 \times C_3$	no	FREE	no
$\{3,5,6,7\}$	$A_1 \times C_3$	no	FREE	no
$\{1,4,5,6,7\}$	$A_1 \times C_4$	no	FREE	no
$\{2,4,5,6,7\}$	$A_1 \times C_4$	no	FREE	no
$\{1,3,4,5,6,7\}$	$A_1 \times C_5$	no	FREE	no
$\{1,2,4,5\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,5,6\}$	$A_2 \times A_2$	no	FREE	no
$\{2,3,5,6\}$	$A_2 \times A_2$	no	FREE	no

$\{1,2,3,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{2,3,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{3,4,6,7\}$	$A_2 \times B_2$	no	FREE	no
$\{1,2,5,6,7\}$	$A_2 \times C_3$	no	FREE	no
$\{2,3,5,6,7\}$	$A_2 \times C_3$	no	FREE	no
$\{1,2,4,5,6,7\}$	$A_2 \times C_4$	no	FREE	no
$\{1,2,3,6,7\}$	$A_3 \times B_2$	no	FREE	no
$\{2,3,4,6,7\}$	$A_3 \times B_2$	no	FREE	no
$\{1,2,3,5,6,7\}$	$A_3 \times C_3$	no	FREE	no
$\{1,2,3,4,6,7\}$	$A_4 \times B_2$	no	FREE	no
$\{1,3,5\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{3,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,2,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,5,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,3,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,3,5,7\}$	$A_1 \times A_1 \times A_3$	no	FREE	no
$\{1,3,4,5,7\}$	$A_1 \times A_1 \times A_3$	no	FREE	no
$\{1,3,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{1,4,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{2,4,6,7\}$	$A_1 \times A_1 \times B_2$	no	FREE	no
$\{1,3,5,6,7\}$	$A_1 \times A_1 \times C_3$	no	FREE	no
$\{1,2,4,5,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	no
$\{1,2,4,6,7\}$	$A_1 \times A_2 \times B_2$	no	FREE	no
$\{1,3,4,6,7\}$	$A_1 \times A_2 \times B_2$	no	FREE	no
$\{1,3,5,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	FREE	no

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subset	type	single cell	free	orbit basis
$\{\}$		CHAMBER	(FREE)	(YES)
$\{1\}$	A_1	CHAMBER	(FREE)	(YES)
$\{2\}$	A_1	CHAMBER	(FREE)	(YES)
$\{3\}$	A_1	CHAMBER	(FREE)	(YES)
$\{4\}$	A_1	CHAMBER	(FREE)	(YES)
$\{5\}$	A_1	CHAMBER	(FREE)	(YES)
$\{6\}$	A_1	CHAMBER	(FREE)	(YES)
$\{7\}$	A_1	CHAMBER	(FREE)	(YES)
$\{1,2\}$	A_2	CHAMBER	(FREE)	(YES)
$\{2,3\}$	A_2	CHAMBER	(FREE)	(YES)
$\{3,4\}$	A_2	CHAMBER	(FREE)	(YES)
$\{4,5\}$	A_2	CHAMBER	(FREE)	(YES)
$\{5,6\}$	A_2	CHAMBER	(FREE)	(YES)
$\{5,7\}$	A_2	CHAMBER	(FREE)	(YES)
$\{1,2,3\}$	A_3	CHAMBER	(FREE)	(YES)
$\{2,3,4\}$	A_3	CHAMBER	(FREE)	(YES)
$\{3,4,5\}$	A_3	CHAMBER	(FREE)	(YES)
$\{4,5,6\}$	A_3	CHAMBER	(FREE)	(YES)
$\{4,5,7\}$	A_3	CHAMBER	(FREE)	(YES)
$\{5,6,7\}$	A_3	CHAMBER	(FREE)	(YES)
$\{1,2,3,4\}$	A_4	CHAMBER	(FREE)	(YES)
$\{2,3,4,5\}$	A_4	CHAMBER	(FREE)	(YES)
$\{3,4,5,6\}$	A_4	CHAMBER	(FREE)	(YES)
$\{3,4,5,7\}$	A_4	CHAMBER	(FREE)	(YES)
$\{1,2,3,4,5\}$	A_5	CHAMBER	(FREE)	(YES)
$\{2,3,4,5,6\}$	A_5	CHAMBER	(FREE)	(YES)
$\{2,3,4,5,7\}$	A_5	CHAMBER	(FREE)	(YES)
$\{1,2,3,4,5,6\}$	A_6	CHAMBER	(FREE)	(YES)
$\{1,2,3,4,5,7\}$	A_6	CHAMBER	(FREE)	(YES)
$\{4,5,6,7\}$	D_4	no	no	(no)
$\{3,4,5,6,7\}$	D_5	CHAMBER	(FREE)	(YES)
$\{2,3,4,5,6,7\}$	D_6	no	no	(no)
$\{1,2,3,4,5,6,7\}$	D_7	CHAMBER	(FREE)	(YES)
$\{1,3\}$	$A_1 \times A_1$	no	FREE	no
$\{1,4\}$	$A_1 \times A_1$	no	FREE	no
$\{1,5\}$	$A_1 \times A_1$	no	FREE	no
$\{1,6\}$	$A_1 \times A_1$	no	FREE	no
$\{1,7\}$	$A_1 \times A_1$	no	FREE	no
$\{2,4\}$	$A_1 \times A_1$	no	FREE	no
$\{2,5\}$	$A_1 \times A_1$	no	FREE	no
$\{2,6\}$	$A_1 \times A_1$	no	FREE	no

$\{2,7\}$	$A_1 \times A_1$	no	FREE	no
$\{3,5\}$	$A_1 \times A_1$	no	FREE	no
$\{3,6\}$	$A_1 \times A_1$	no	FREE	no
$\{3,7\}$	$A_1 \times A_1$	no	FREE	no
$\{4,6\}$	$A_1 \times A_1$	no	FREE	no
$\{4,7\}$	$A_1 \times A_1$	no	FREE	no
$\{6,7\}$	$A_1 \times A_1$	no	no	(no)
$\{1,2,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,6\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,7\}$	$A_1 \times A_2$	no	FREE	no
$\{1,3,4\}$	$A_1 \times A_2$	no	FREE	no
$\{1,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{1,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{1,5,7\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,3,7\}$	$A_1 \times A_2$	no	FREE	no
$\{2,4,5\}$	$A_1 \times A_2$	no	FREE	no
$\{2,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{2,5,7\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,4,7\}$	$A_1 \times A_2$	no	FREE	no
$\{3,5,6\}$	$A_1 \times A_2$	no	FREE	no
$\{3,5,7\}$	$A_1 \times A_2$	no	FREE	no
$\{1,2,3,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,6\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,7\}$	$A_1 \times A_3$	no	FREE	no
$\{1,3,4,5\}$	$A_1 \times A_3$	no	FREE	no
$\{1,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{1,4,5,7\}$	$A_1 \times A_3$	no	FREE	no
$\{1,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,3,4,7\}$	$A_1 \times A_3$	no	FREE	no
$\{2,4,5,6\}$	$A_1 \times A_3$	no	FREE	no
$\{2,4,5,7\}$	$A_1 \times A_3$	no	FREE	no
$\{2,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{3,5,6,7\}$	$A_1 \times A_3$	no	FREE	no
$\{1,2,3,4,6\}$	$A_1 \times A_4$	no	FREE	no
$\{1,2,3,4,7\}$	$A_1 \times A_4$	no	FREE	no
$\{1,3,4,5,6\}$	$A_1 \times A_4$	no	FREE	no
$\{1,3,4,5,7\}$	$A_1 \times A_4$	no	FREE	no
$\{1,4,5,6,7\}$	$A_1 \times D_4$	no	no	(no)
$\{2,4,5,6,7\}$	$A_1 \times D_4$	no	no	(no)
$\{1,3,4,5,6,7\}$	$A_1 \times D_5$	no	FREE	no
$\{1,2,4,5\}$	$A_2 \times A_2$	no	FREE	no

$\{1,2,5,6\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,5,7\}$	$A_2 \times A_2$	no	FREE	no
$\{2,3,5,6\}$	$A_2 \times A_2$	no	FREE	no
$\{2,3,5,7\}$	$A_2 \times A_2$	no	FREE	no
$\{1,2,3,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,3,5,7\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,6\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,7\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,5,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{2,3,5,6,7\}$	$A_2 \times A_3$	no	FREE	no
$\{1,2,4,5,6,7\}$	$A_2 \times D_4$	no	no	(no)
$\{1,2,3,5,6,7\}$	$A_3 \times A_3$	no	FREE	no
$\{1,3,5\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,3,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{1,6,7\}$	$A_1 \times A_1 \times A_1$	no	no	(no)
$\{2,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	no
$\{2,6,7\}$	$A_1 \times A_1 \times A_1$	no	no	(no)
$\{3,6,7\}$	$A_1 \times A_1 \times A_1$	no	no	(no)
$\{4,6,7\}$	$A_1 \times A_1 \times A_1$	no	no	(no)
$\{1,2,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,2,6,7\}$	$A_1 \times A_1 \times A_2$	no	no	(no)
$\{1,3,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,5,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{1,3,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	no
$\{2,3,6,7\}$	$A_1 \times A_1 \times A_2$	no	no	(no)
$\{3,4,6,7\}$	$A_1 \times A_1 \times A_2$	no	no	(no)
$\{1,2,3,6,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,3,5,6,7\}$	$A_1 \times A_1 \times A_3$	no	FREE	no
$\{2,3,4,6,7\}$	$A_1 \times A_1 \times A_3$	no	no	(no)
$\{1,2,3,4,6,7\}$	$A_1 \times A_1 \times A_4$	no	no	(no)
$\{1,3,6,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(no)
$\{1,4,6,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(no)
$\{2,4,6,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(no)
$\{1,2,4,6,7\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(no)
$\{1,3,4,6,7\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(no)

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subset	type	single cell	free	orbit basis
$\{\}$		CHAMBER	(FREE)	(???)
$\{1\}$	A_1	CHAMBER	(FREE)	(???)
$\{2\}$	A_1	CHAMBER	(FREE)	(???)
$\{3\}$	A_1	CHAMBER	(FREE)	(???)
$\{4\}$	A_1	CHAMBER	(FREE)	(???)
$\{5\}$	A_1	CHAMBER	(FREE)	(???)
$\{6\}$	A_1	CHAMBER	(FREE)	(???)
$\{7\}$	A_1	CHAMBER	(FREE)	(???)
$\{8\}$	A_1	CHAMBER	(FREE)	(???)
$\{1,2\}$	A_2	CHAMBER	(FREE)	(???)
$\{2,3\}$	A_2	CHAMBER	(FREE)	(???)
$\{3,4\}$	A_2	CHAMBER	(FREE)	(???)
$\{4,5\}$	A_2	CHAMBER	(FREE)	(???)
$\{5,6\}$	A_2	CHAMBER	(FREE)	(???)
$\{6,7\}$	A_2	CHAMBER	(FREE)	(???)
$\{6,8\}$	A_2	CHAMBER	(FREE)	(???)
$\{1,2,3\}$	A_3	CHAMBER	(FREE)	(???)
$\{2,3,4\}$	A_3	CHAMBER	(FREE)	(???)
$\{3,4,5\}$	A_3	CHAMBER	(FREE)	(???)
$\{4,5,6\}$	A_3	CHAMBER	(FREE)	(???)
$\{5,6,7\}$	A_3	CHAMBER	(FREE)	(???)
$\{5,6,8\}$	A_3	CHAMBER	(FREE)	(???)
$\{6,7,8\}$	A_3	CHAMBER	(FREE)	(???)
$\{1,2,3,4\}$	A_4	CHAMBER	(FREE)	(???)
$\{2,3,4,5\}$	A_4	CHAMBER	(FREE)	(???)
$\{3,4,5,6\}$	A_4	CHAMBER	(FREE)	(???)
$\{4,5,6,7\}$	A_4	CHAMBER	(FREE)	(???)
$\{4,5,6,8\}$	A_4	CHAMBER	(FREE)	(???)
$\{1,2,3,4,5\}$	A_5	CHAMBER	(FREE)	(???)
$\{2,3,4,5,6\}$	A_5	CHAMBER	(FREE)	(???)
$\{3,4,5,6,7\}$	A_5	CHAMBER	(FREE)	(???)
$\{3,4,5,6,8\}$	A_5	CHAMBER	(FREE)	(???)
$\{1,2,3,4,5,6\}$	A_6	CHAMBER	(FREE)	(???)
$\{2,3,4,5,6,7\}$	A_6	CHAMBER	(FREE)	(???)
$\{2,3,4,5,6,8\}$	A_6	CHAMBER	(FREE)	(???)
$\{1,2,3,4,5,6,7\}$	A_7	CHAMBER	(FREE)	(???)
$\{1,2,3,4,5,6,8\}$	A_7	CHAMBER	(FREE)	(???)
$\{5,6,7,8\}$	D_4	no	no	(???)
$\{4,5,6,7,8\}$	D_5	CHAMBER	(FREE)	(???)
$\{3,4,5,6,7,8\}$	D_6	no	no	(???)
$\{2,3,4,5,6,7,8\}$	D_7	CHAMBER	(FREE)	(???)

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$\{1,2,3,4,5,6,7,8\}$	D_8	CHAMBER	(FREE)	(???)
$\{1,3\}$	$A_1 \times A_1$	no	FREE	???
$\{1,4\}$	$A_1 \times A_1$	no	FREE	???
$\{1,5\}$	$A_1 \times A_1$	no	FREE	???
$\{1,6\}$	$A_1 \times A_1$	no	FREE	???
$\{1,7\}$	$A_1 \times A_1$	no	FREE	???
$\{1,8\}$	$A_1 \times A_1$	no	FREE	???
$\{2,4\}$	$A_1 \times A_1$	no	FREE	???
$\{2,5\}$	$A_1 \times A_1$	no	FREE	???
$\{2,6\}$	$A_1 \times A_1$	no	FREE	???
$\{2,7\}$	$A_1 \times A_1$	no	FREE	???
$\{2,8\}$	$A_1 \times A_1$	no	FREE	???
$\{3,5\}$	$A_1 \times A_1$	no	FREE	???
$\{3,6\}$	$A_1 \times A_1$	no	FREE	???
$\{3,7\}$	$A_1 \times A_1$	no	FREE	???
$\{3,8\}$	$A_1 \times A_1$	no	FREE	???
$\{4,6\}$	$A_1 \times A_1$	no	FREE	???
$\{4,7\}$	$A_1 \times A_1$	no	FREE	???
$\{4,8\}$	$A_1 \times A_1$	no	FREE	???
$\{5,7\}$	$A_1 \times A_1$	no	FREE	???
$\{5,8\}$	$A_1 \times A_1$	no	FREE	???
$\{7,8\}$	$A_1 \times A_1$	no	no	(???)
$\{1,2,4\}$	$A_1 \times A_2$	no	FREE	???
$\{1,2,5\}$	$A_1 \times A_2$	no	FREE	???
$\{1,2,6\}$	$A_1 \times A_2$	no	FREE	???
$\{1,2,7\}$	$A_1 \times A_2$	no	FREE	???
$\{1,2,8\}$	$A_1 \times A_2$	no	FREE	???
$\{1,3,4\}$	$A_1 \times A_2$	no	FREE	???
$\{1,4,5\}$	$A_1 \times A_2$	no	FREE	???
$\{1,5,6\}$	$A_1 \times A_2$	no	FREE	???
$\{1,6,7\}$	$A_1 \times A_2$	no	FREE	???
$\{1,6,8\}$	$A_1 \times A_2$	no	FREE	???
$\{2,3,5\}$	$A_1 \times A_2$	no	FREE	???
$\{2,3,6\}$	$A_1 \times A_2$	no	FREE	???
$\{2,3,7\}$	$A_1 \times A_2$	no	FREE	???
$\{2,3,8\}$	$A_1 \times A_2$	no	FREE	???
$\{2,4,5\}$	$A_1 \times A_2$	no	FREE	???
$\{2,5,6\}$	$A_1 \times A_2$	no	FREE	???
$\{2,6,7\}$	$A_1 \times A_2$	no	FREE	???
$\{2,6,8\}$	$A_1 \times A_2$	no	FREE	???
$\{3,4,6\}$	$A_1 \times A_2$	no	FREE	???
$\{3,4,7\}$	$A_1 \times A_2$	no	FREE	???
$\{3,4,8\}$	$A_1 \times A_2$	no	FREE	???
$\{3,5,6\}$	$A_1 \times A_2$	no	FREE	???
$\{3,6,7\}$	$A_1 \times A_2$	no	FREE	???
$\{3,6,8\}$	$A_1 \times A_2$	no	FREE	???

$\{4,5,7\}$	$A_1 \times A_2$	no	FREE	???
$\{4,5,8\}$	$A_1 \times A_2$	no	FREE	???
$\{4,6,7\}$	$A_1 \times A_2$	no	FREE	???
$\{4,6,8\}$	$A_1 \times A_2$	no	FREE	???
$\{1,2,3,5\}$	$A_1 \times A_3$	no	FREE	???
$\{1,2,3,6\}$	$A_1 \times A_3$	no	FREE	???
$\{1,2,3,7\}$	$A_1 \times A_3$	no	FREE	???
$\{1,2,3,8\}$	$A_1 \times A_3$	no	FREE	???
$\{1,3,4,5\}$	$A_1 \times A_3$	no	FREE	???
$\{1,4,5,6\}$	$A_1 \times A_3$	no	FREE	???
$\{1,5,6,7\}$	$A_1 \times A_3$	no	FREE	???
$\{1,5,6,8\}$	$A_1 \times A_3$	no	FREE	???
$\{1,6,7,8\}$	$A_1 \times A_3$	no	FREE	???
$\{2,3,4,6\}$	$A_1 \times A_3$	no	FREE	???
$\{2,3,4,7\}$	$A_1 \times A_3$	no	FREE	???
$\{2,3,4,8\}$	$A_1 \times A_3$	no	FREE	???
$\{2,4,5,6\}$	$A_1 \times A_3$	no	FREE	???
$\{2,5,6,7\}$	$A_1 \times A_3$	no	FREE	???
$\{2,5,6,8\}$	$A_1 \times A_3$	no	FREE	???
$\{2,6,7,8\}$	$A_1 \times A_3$	no	FREE	???
$\{3,4,5,7\}$	$A_1 \times A_3$	no	FREE	???
$\{3,4,5,8\}$	$A_1 \times A_3$	no	FREE	???
$\{3,5,6,7\}$	$A_1 \times A_3$	no	FREE	???
$\{3,5,6,8\}$	$A_1 \times A_3$	no	FREE	???
$\{3,6,7,8\}$	$A_1 \times A_3$	no	FREE	???
$\{4,6,7,8\}$	$A_1 \times A_3$	no	FREE	???
$\{1,2,3,4,6\}$	$A_1 \times A_4$	no	FREE	???
$\{1,2,3,4,7\}$	$A_1 \times A_4$	no	FREE	???
$\{1,2,3,4,8\}$	$A_1 \times A_4$	no	FREE	???
$\{1,3,4,5,6\}$	$A_1 \times A_4$	no	FREE	???
$\{1,4,5,6,7\}$	$A_1 \times A_4$	no	FREE	???
$\{1,4,5,6,8\}$	$A_1 \times A_4$	no	FREE	???
$\{2,3,4,5,7\}$	$A_1 \times A_4$	no	FREE	???
$\{2,3,4,5,8\}$	$A_1 \times A_4$	no	FREE	???
$\{2,4,5,6,7\}$	$A_1 \times A_4$	no	FREE	???
$\{2,4,5,6,8\}$	$A_1 \times A_4$	no	FREE	???
$\{1,2,3,4,5,7\}$	$A_1 \times A_5$	no	no	(???)
$\{1,2,3,4,5,8\}$	$A_1 \times A_5$	no	no	(???)
$\{1,3,4,5,6,7\}$	$A_1 \times A_5$	no	no	(???)
$\{1,3,4,5,6,8\}$	$A_1 \times A_5$	no	no	(???)
$\{1,5,6,7,8\}$	$A_1 \times D_4$	no	no	(???)
$\{2,5,6,7,8\}$	$A_1 \times D_4$	no	no	(???)
$\{3,5,6,7,8\}$	$A_1 \times D_4$	no	no	(???)
$\{1,4,5,6,7,8\}$	$A_1 \times D_5$	no	FREE	???
$\{2,4,5,6,7,8\}$	$A_1 \times D_5$	no	FREE	???
$\{1,3,4,5,6,7,8\}$	$A_1 \times D_6$	no	no	(???)

$\{1,2,4,5\}$	$A_2 \times A_2$	no	FREE	???
$\{1,2,5,6\}$	$A_2 \times A_2$	no	FREE	???
$\{1,2,6,7\}$	$A_2 \times A_2$	no	FREE	???
$\{1,2,6,8\}$	$A_2 \times A_2$	no	FREE	???
$\{2,3,5,6\}$	$A_2 \times A_2$	no	FREE	???
$\{2,3,6,7\}$	$A_2 \times A_2$	no	FREE	???
$\{2,3,6,8\}$	$A_2 \times A_2$	no	FREE	???
$\{3,4,6,7\}$	$A_2 \times A_2$	no	FREE	???
$\{3,4,6,8\}$	$A_2 \times A_2$	no	FREE	???
$\{1,2,3,5,6\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,3,6,7\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,3,6,8\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,4,5,6\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,5,6,7\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,5,6,8\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,6,7,8\}$	$A_2 \times A_3$	no	FREE	???
$\{2,3,4,6,7\}$	$A_2 \times A_3$	no	FREE	???
$\{2,3,4,6,8\}$	$A_2 \times A_3$	no	FREE	???
$\{2,3,5,6,7\}$	$A_2 \times A_3$	no	FREE	???
$\{2,3,5,6,8\}$	$A_2 \times A_3$	no	FREE	???
$\{2,3,6,7,8\}$	$A_2 \times A_3$	no	FREE	???
$\{3,4,6,7,8\}$	$A_2 \times A_3$	no	FREE	???
$\{1,2,3,4,6,7\}$	$A_2 \times A_4$	no	FREE	???
$\{1,2,3,4,6,8\}$	$A_2 \times A_4$	no	FREE	???
$\{1,2,4,5,6,7\}$	$A_2 \times A_4$	no	FREE	???
$\{1,2,4,5,6,8\}$	$A_2 \times A_4$	no	FREE	???
$\{1,2,5,6,7,8\}$	$A_2 \times D_4$	no	no	(???)
$\{2,3,5,6,7,8\}$	$A_2 \times D_4$	no	no	(???)
$\{1,2,4,5,6,7,8\}$	$A_2 \times D_5$	no	FREE	???
$\{1,2,3,5,6,7\}$	$A_3 \times A_3$	no	no	(???)
$\{1,2,3,5,6,8\}$	$A_3 \times A_3$	no	no	(???)
$\{1,2,3,6,7,8\}$	$A_3 \times A_3$	no	FREE	???
$\{2,3,4,6,7,8\}$	$A_3 \times A_3$	no	FREE	???
$\{1,2,3,4,6,7,8\}$	$A_3 \times A_4$	no	FREE	???
$\{1,2,3,5,6,7,8\}$	$A_3 \times D_4$	no	no	(???)
$\{1,3,5\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,3,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,3,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,3,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,4,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,5,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{1,7,8\}$	$A_1 \times A_1 \times A_1$	no	no	(???)
$\{2,4,6\}$	$A_1 \times A_1 \times A_1$	no	FREE	???

$\{2,4,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{2,4,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{2,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{2,5,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{2,7,8\}$	$A_1 \times A_1 \times A_1$	no	no	(???)
$\{3,5,7\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{3,5,8\}$	$A_1 \times A_1 \times A_1$	no	FREE	???
$\{3,7,8\}$	$A_1 \times A_1 \times A_1$	no	no	(???)
$\{4,7,8\}$	$A_1 \times A_1 \times A_1$	no	no	(???)
$\{5,7,8\}$	$A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,2,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,2,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,2,4,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,2,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,2,5,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,2,7,8\}$	$A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,3,4,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,3,4,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,3,4,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,3,5,6\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,3,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,3,6,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,4,5,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,4,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{1,4,6,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,3,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,3,5,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,3,7,8\}$	$A_1 \times A_1 \times A_2$	no	no	(???)
$\{2,4,5,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,4,5,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,4,6,7\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{2,4,6,8\}$	$A_1 \times A_1 \times A_2$	no	FREE	???
$\{3,4,7,8\}$	$A_1 \times A_1 \times A_2$	no	no	(???)
$\{4,5,7,8\}$	$A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,2,3,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,2,3,5,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,2,3,7,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,4,5,7\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,4,5,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,5,6,7\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,5,6,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,6,7,8\}$	$A_1 \times A_1 \times A_3$	no	FREE	???
$\{1,4,6,7,8\}$	$A_1 \times A_1 \times A_3$	no	FREE	???
$\{2,3,4,7,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{2,4,6,7,8\}$	$A_1 \times A_1 \times A_3$	no	FREE	???

$\{3,4,5,7,8\}$	$A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,2,3,4,7,8\}$	$A_1 \times A_1 \times A_4$	no	no	(???)
$\{2,3,4,5,7,8\}$	$A_1 \times A_1 \times A_4$	no	no	(???)
$\{1,2,3,4,5,7,8\}$	$A_1 \times A_1 \times A_5$	no	no	(???)
$\{1,3,5,6,7,8\}$	$A_1 \times A_1 \times D_4$	no	no	(???)
$\{1,2,4,5,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,2,4,5,8\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,2,4,6,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,2,4,6,8\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,3,4,6,7\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,3,4,6,8\}$	$A_1 \times A_2 \times A_2$	no	FREE	???
$\{1,2,4,6,7,8\}$	$A_1 \times A_2 \times A_3$	no	FREE	???
$\{1,3,4,6,7,8\}$	$A_1 \times A_2 \times A_3$	no	FREE	???
$\{1,3,5,7\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,3,5,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,3,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,4,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{2,4,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{2,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{3,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)
$\{1,2,4,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,2,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,3,4,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,4,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{2,3,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{2,4,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_2$	no	no	(???)
$\{1,2,3,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,3,4,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_3$	no	no	(???)
$\{1,2,4,5,7,8\}$	$A_1 \times A_1 \times A_2 \times A_2$	no	no	(???)
$\{1,3,5,7,8\}$	$A_1 \times A_1 \times A_1 \times A_1 \times A_1$	no	no	(???)