# Appendix: SOAs and near SOAs in the tables

We arrange the columns of a saturated regular design OA(n, (n-1)/(s'-1), s', 2) in Yates order and label them by  $1, 2, \ldots, (n-1)/(s'-1)$ . For ease of expression, we represent A and B by the labels of columns.

## 8-run designs

An OABD<sub>2</sub>(8,  $4^2$ ) with  $A_2(D) = 1$  and  $\mu(D) = 0$ : A = (5, 6), B = (4, 4).

An OABD<sub>2</sub>(8,  $4^3$ ) with  $A_2(D) = 3$  and  $\mu(D) = 0$ : A = (5, 6, 7), B = (4, 4, 4).

An OABD<sub>2</sub>(8,  $4^4$ ) with  $A_2(D) = 6$  and  $\mu(D) = 1$ : A = (3, 5, 6, 7), B = (2, 1, 4, 4).

An OABD<sub>2</sub>(8,  $4^5$ ) with  $A_2(D) = 10$  and  $\mu(D) = 4$ : A = (3, 4, 5, 6, 7), B = (1, 2, 1, 1, 2).

An OABD<sub>2</sub>(8, 4<sup>6</sup>) with  $A_2(D) = 21$  and  $\mu(D) = 6$ : A = (2, 3, 4, 5, 6, 7), B = (1, 1, 1, 1, 1, 1).

## 16-run designs

An OABD<sub>2</sub>(16,  $4^6$ ) with  $A_2(D) = 3$  and  $\mu(D) = 0$ : A = (2, 4, 8, 10, 14, 15), B = (1, 3, 13, 6, 11, 6).

An OABD<sub>2</sub>(16,  $4^7$ ) with  $A_2(D) = 6$  and  $\mu(D) = 0$ : A = (3, 4, 8, 10, 12, 14, 15), B = (6, 2, 5, 11, 11, 9, 13).

An OABD<sub>2</sub>(16,  $4^8$ ) with  $A_2(D) = 12$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 11, 14), B = (12, 5, 15, 9, 7, 5, 13, 7).

An OABD<sub>2</sub>(16, 4<sup>9</sup>) with  $A_2(D) = 18$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 12, 14, 15),B = (7, 11, 6, 13, 5, 7, 11, 5, 9).

An OABD<sub>2</sub>(16,  $4^{10}$ ) with  $A_2(D) = 30$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 11, 12, 14, 15), <math>B = (7, 5, 5, 13, 5, 7, 6, 5, 9, 6).

An OABD<sub>2</sub>(16,  $4^{11}$ ) with  $A_2(D) = 33$  and  $\mu(D) = 5$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15), <math>B = (1, 1, 4, 4, 1, 2, 1, 4, 8, 2, 2).

An OABD<sub>2</sub>(16,  $4^{12}$ ) with  $A_2(D) = 40$  and  $\mu(D) = 9$ : A = (3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15), <math>B = (1, 4, 2, 1, 2, 2, 2, 4, 1, 4, 2, 1).

13, 14, 15), B = (1, 2, 1, 1, 2, 2, 2, 2, 2, 1, 1, 1, 1).

#### 32-run designs

An OABD<sub>2</sub>(32,  $4^{10}$ ) with  $A_2(D) = 1$  and  $\mu(D) = 0$ : A = (9, 15, 17, 18, 19, 21, 23, 25, 30, 31), <math>B = (8, 3, 13, 22, 14, 16, 29, 2, 24, 11).

An OABD<sub>2</sub>(32,  $4^{11}$ ) with  $A_2(D) = 3$  and  $\mu(D) = 0$ : A = (1, 2, 4, 10, 11, 14, 18, 22, 23, 24, 31), <math>B = (21, 19, 29, 12, 21, 7, 15, 19, 13, 16, 3).

20, 22, 27), B = (26, 30, 21, 15, 6, 7, 9, 31, 10, 17, 1, 28).

 $24,\,27,\,28,\,31),\,B=(9,\,19,\,29,\,12,\,29,\,17,\,21,\,8,\,16,\,13,\,26,\,25,\,11).$ 

 $18,\,24,\,26,\,27,\,30,\,31),\,B=(23,\,21,\,8,\,22,\,13,\,7,\,25,\,21,\,1,\,9,\,28,\,8,\,2,\,6).$ 

 $25,\ 26,\ 27,\ 29,\ 30,\ 31),\ B=(4,\ 8,\ 13,\ 18,\ 12,\ 16,\ 20,\ 20,\ 15,\ 12,\ 8,\ 21,\ 13,\ 28,\ 28).$ 

 $19,\,22,\,23,\,24,\,27,\,30,\,31),\,B=(20,\,5,\,6,\,9,\,28,\,25,\,28,\,26,\,13,\,9,\,17,\,29,\,20,\,10,\,18,\,25).$ 

22, 23, 24, 26, 27, 28, 30, 31), B = (8, 7, 16, 21, 7, 21, 8, 18, 29, 19, 17, 11, 8, 11, 13, 25, 25).

7, 25).

An OABD<sub>2</sub>(32,  $4^{19}$ ) with  $A_2(D) = 43$  and  $\mu(D) = 0$ : A = (1, 3, 4, 8, 10, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28, 30), <math>B = (6, 5, 25, 25, 7, 29, 9, 2, 21, 31, 6, 11, 11, 2, 17, 31, 25, 13, 21).

An OABD<sub>2</sub>(32,  $4^{20}$ ) with  $A_2(D) = 54$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 11, 12, 15, 16, 18, 19, 20, 22, 24, 26, 27, 28, 30, 31), <math>B = (7, 21, 13, 13, 17, 29, 13, 17, 6, 21, 5, 6, 29, 17, 29, 23, 14, 25, 7, 14).

An OABD<sub>2</sub>(32,  $4^{21}$ ) with  $A_2(D) = 72$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28, 30), <math>B = (6, 5, 5, 13, 17, 31, 6, 21, 17, 6, 13, 13, 6, 9, 17, 17, 29, 5, 6, 21, 25).

An OABD<sub>2</sub>(32,  $4^{22}$ ) with  $A_2(D) = 98$  and  $\mu(D) = 0$ : A = (1, 2, 3, 4, 8, 10, 11, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28, 30, 31), <math>B = (7, 7, 6, 25, 13, 7, 13, 21, 7, 9, 21, 21, 6, 9, 17, 17, 9, 7, 29, 13, 7, 25).

An OABD<sub>2</sub>(32,  $4^{23}$ ) with  $A_2(D) = 104$  and  $\mu(D) = 3$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31), <math>B = (2, 1, 4, 8, 1, 2, 15, 4, 2, 1, 19, 16, 17, 17, 4, 8, 8, 16, 8, 15, 19, 15, 15).

An OABD<sub>2</sub>(32,  $4^{24}$ ) with  $A_2(D) = 111$  and  $\mu(D) = 6$ : A = (5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30), <math>B = (4, 2, 4, 1, 2, 3, 8, 3, 3, 16, 16, 2, 16, 16, 2, 2, 31, 16, 1, 1, 31, 31, 2, 31).

An OABD<sub>2</sub>(32,  $4^{25}$ ) with  $A_2(D) = 124$  and  $\mu(D) = 10$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30), <math>B = (1, 4, 2, 8, 8, 8, 31, 4, 1, 16, 31, 1, 16, 4, 4, 31, 4, 8, 16, 16, 2, 31, 1, 31, 1).

An OABD<sub>2</sub>(32,  $4^{26}$ ) with  $A_2(D) = 128$  and  $\mu(D) = 16$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31), <math>B = (1, 1, 4, 8, 1, 8, 1, 8, 4, 2, 16, 16, 2, 2, 4, 8, 16, 16, 8, 1, 8, 1, 8, 4, 2, 4).

14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31), B = (1, 1, 2, 1, 8, 8, 8, 4, 4, 2, 8, 8, 2, 4, 1, 4, 4, 8, 2, 1, 1, 8, 2, 1, 8, 2).

An OABD<sub>2</sub>(32,  $4^{28}$ ) with  $A_2(D) = 171$  and  $\mu(D) = 25$ : A = (3, 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), <math>B = (1, 1, 4, 4, 4, 4, 4, 1, 2, 2, 2, 2, 2, 2, 2, 1, 1, 2, 4, 1, 1, 4, 1, 4, 4, 1).

An OABD<sub>2</sub>(32,  $4^{29}$ ) with  $A_2(D) = 238$  and  $\mu(D) = 28$ : A = (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), <math>B = (1, 1, 2, 2, 1, 1, 2, 2, 1, 1, 2, 2, 2, 1, 1, 2, 2, 1, 1, 1, 1, 1).

### 64-run designs

An OABD<sub>2</sub>(64,  $4^{22}$ ) with  $A_2(D) = 7$  and  $\mu(D) = 0$ : A = (11, 14, 19, 22, 23, 29, 31, 34, 37, 43, 44, 45, 47, 51, 53, 55, 57, 58, 59, 60, 61, 62), <math>B = (35, 20, 3, 28, 40, 26, 39, 4, 52, 41, 36, 13, 41, 50, 48, 46, 33, 54, 21, 54, 30, 49).

An OABD<sub>2</sub>(64,  $4^{23}$ ) with  $A_2(D) = 9$  and  $\mu(D) = 0$ : A = (2, 3, 6, 16, 21, 27, 29, 32, 34, 35, 38, 42, 43, 44, 47, 48, 50, 51, 55, 58, 60, 61, 62), <math>B = (57, 4, 23, 28, 20, 13, 9, 49, 56, 10, 25, 31, 14, 41, 8, 39, 28, 33, 56, 30, 57, 11, 19).

An OABD<sub>2</sub>(64,  $4^{24}$ ) with  $A_2(D) = 11$  and  $\mu(D) = 0$ : A = (4, 8, 10, 14, 15, 18, 20, 24, 26, 30, 31, 34, 36, 40, 42, 46, 47, 48, 50, 52, 56, 58, 62, 63), <math>B = (3, 13, 6, 11, 6, 49, 51, 61, 54, 59, 54, 17, 19, 29, 22, 27, 22, 16, 33, 35, 45, 38, 43, 38).

An OABD<sub>2</sub>(64,  $4^{25}$ ) with  $A_2(D) = 12$  and  $\mu(D) = 0$ : A = (2, 4, 8, 10, 14, 15, 18, 20, 24, 26, 30, 31, 34, 36, 40, 42, 46, 47, 48, 50, 52, 56, 58, 62, 63), <math>B = (1, 3, 13, 6, 11, 6, 49, 51, 61, 54, 59, 54, 17, 19, 29, 22, 27, 22, 16, 33, 35, 45, 38, 43, 38).

60, 26, 22, 6, 2, 1, 48, 37, 41, 33, 9, 25, 7, 6, 57, 1, 60, 3, 48, 47, 50).

40, 48).

An OABD<sub>2</sub>(64,  $4^{27}$ ) with  $A_2(D) = 20$  and  $\mu(D) = 0$ : A = (13, 14, 18, 19, 21, 22, 23, 25, 27, 28, 29, 31, 33, 34, 35, 37, 41, 43, 44, 46, 47, 52, 53, 57, 58, 62, 63), <math>B = (12, 9, 10, 2, 50, 48, 30, 40, 39, 56, 55, 20, 49, 45, 5, 20, 51, 39, 8, 6, 32, 2, 48, 4, 50, 3, 59).

An OABD<sub>2</sub>(64,  $4^{28}$ ) with  $A_2(D) = 22$  and  $\mu(D) = 0$ : A = (4, 8, 10, 12, 14, 15, 19, 20, 24, 26, 28, 30, 31, 35, 36, 40, 42, 44, 46, 47, 48, 51, 52, 56, 58, 60, 62, 63), <math>B = (2, 5, 11, 11, 9, 13, 54, 50, 53, 59, 59, 57, 61, 22, 18, 21, 27, 27, 25, 29, 16, 38, 34, 37, 43, 43, 41, 45).

An OABD<sub>2</sub>(64,  $4^{29}$ ) with  $A_2(D) = 24$  and  $\mu(D) = 0$ : A = (3, 4, 8, 10, 12, 14, 15, 19, 20, 24, 26, 28, 30, 31, 35, 36, 40, 42, 44, 46, 47, 48, 51, 52, 56, 58, 60, 62, 63), <math>B = (6, 2, 5, 11, 11, 9, 13, 54, 50, 53, 59, 59, 57, 61, 22, 18, 21, 27, 27, 25, 29, 16, 38, 34, 37, 43, 43, 41, 45).An OABD<sub>2</sub>(64,  $4^{30}$ ) with  $A_2(D) = 31$  and  $\mu(D) = 0$ : A = (10, 11, 13, 14, 17, 19, 21, 25, 26, 27, 28, 29, 30, 31, 34, 35, 36, 41, 42, 47, 49, 50, 52, 53, 58, 59, 60, 61, 62, 63), <math>B = (45, 45, 5, 55, 7, 51, 22, 24, 44, 9, 24, 54, 23, 8, 32, 15, 3, 7, 44, 55, 20, 48, 56, 20, 40, 16, 12, 4,

An OABD<sub>2</sub>(64,  $4^{31}$ ) with  $A_2(D) = 35$  and  $\mu(D) = 0$ : A = (10, 11, 17, 18, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 36, 38, 39, 41, 42, 45, 47, 51, 54, 57, 58, 59, 60, 62, 63), <math>B = (2, 2, 61, 48, 19, 6, 35, 19, 55, 46, 24, 55, 13, 50, 46, 32, 35, 3, 43, 40, 15, 5, 34, 53, 50, 9, 52, 35, 56, 15, 55).

An OABD<sub>2</sub>(64,  $4^{32}$ ) with  $A_2(D) = 40$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 19, 21, 22, 25, 26, 28, 30, 31, 35, 37, 41, 42, 43, 45, 46, 47, 49, 51, 52, 53, 54, 55, 58, 60, 61, 63), <math>B = (38, 14, 40, 50, 36, 4, 14, 7, 17, 56, 20, 24, 5, 15, 15, 2, 16, 59, 15, 20, 16, 3, 23, 3, 38, 7, 6, 23, 27, 36, 5, 29).

An OABD<sub>2</sub>(64,  $4^{33}$ ) with  $A_2(D) = 44$  and  $\mu(D) = 0$ : A = (1, 11, 12, 14, 15, 16, 18, 20, 21, 23, 26, 27, 28, 29, 31, 35, 36, 37, 38, 39, 40, 42, 44, 45, 46, 51, 53, 55, 56, 58, 59, 60, 63), <math>B = (32, 57, 49, 62, 7, 8, 22, 10, 13, 33, 25, 2, 25, 24, 47, 50, 13, 17, 6, 52, 34, 47, 7, 6, 61, 2, 43, 33, 6, 3, 9, 34, 54).

An OABD<sub>2</sub>(64,  $4^{34}$ ) with  $A_2(D) = 53$  and  $\mu(D) = 0$ : A = (9, 10, 13, 14, 15, 17, 19, 20, 22, 23, 27, 29, 30, 33, 34, 35, 36, 37, 39, 41, 42, 47, 49, 50, 51, 52, 53, 54, 55, 57, 59, 60, 61, 62), <math>B = (11, 18, 45, 38, 8, 26, 1, 24, 16, 21, 31, 48, 26, 38, 18, 32, 28, 11, 31, 5, 12, 44, 25, 46, 63, 25, 21, 26, 63, 43, 58, 16, 7, 56).

An OABD<sub>2</sub>(64,  $4^{35}$ ) with  $A_2(D) = 59$  and  $\mu(D) = 0$ : A = (10, 11, 12, 13, 15, 17, 18, 19, 21, 23, 25, 27, 28, 29, 30, 31, 33, 36, 37, 38, 42, 43, 44, 45, 46, 47, 49, 50, 51, 54, 55, 57, 60, 61, 62), <math>B = (16, 34, 8, 5, 40, 24, 48, 35, 20, 35, 26, 24, 52, 58, 14, 7, 32, 6, 63, 48, 41, 63, 58, 40, 14, 40, 39, 59, 6, 56, 2, 59, 58, 2, 59).

An OABD<sub>2</sub>(64,  $4^{36}$ ) with  $A_2(D) = 65$  and  $\mu(D) = 0$ : A = (1, 10, 12, 13, 14, 15, 16, 19, 21, 22, 23, 24, 26, 28, 29, 30, 32, 34, 35, 39, 40, 42, 43, 46, 47, 48, 50, 52, 53, 54, 55, 56, 59, 61, 62, 63), <math>B = (2, 9, 33, 49, 6, 7, 4, 2, 4, 58, 38, 60, 5, 58, 6, 25, 37, 37, 5, 44, 58, 33, 57, 58, 41, 3, 41, 25, 36, 41, 18, 33, 51, 57, 2, 36).

An OABD<sub>2</sub>(64,  $4^{37}$ ) with  $A_2(D) = 72$  and  $\mu(D) = 0$ : A = (10, 11, 12, 13, 15, 17, 18, 19, 20, 22, 25, 26, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 41, 42, 44, 46, 47, 49, 52, 53, 54, 55, 58, 59, 60, 61, 62), <math>B = (56, 2, 5, 14, 8, 24, 2, 8, 3, 16, 1, 50, 45, 45, 3, 40, 57, 27, 4, 50, 21, 32, 1, 63, 48, 43, 4, 14, 4, 51, 5, 57, 45, 43, 28, 63, 56).

An OABD<sub>2</sub>(64,  $4^{38}$ ) with  $A_2(D) = 82$  and  $\mu(D) = 0$ : A = (10, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 25, 26, 27, 28, 30, 31, 33, 34, 35, 37, 42, 43, 44, 45, 46, 47, 50, 52, 53, 54, 55, 57, 58, 59, 60, 62, 63), <math>B = (9, 49, 8, 51, 4, 16, 2, 51, 51, 49, 20, 48, 2, 3, 1, 29, 7, 9, 6, 11, 32, 2, 32, 41, 4, 39, 39, 38, 16, 8, 48, 7, 16, 56, 29, 56, 6, 7).

An OABD<sub>2</sub>(64,  $4^{39}$ ) with  $A_2(D) = 93$  and  $\mu(D) = 0$ : A = (8, 10, 11, 12, 13, 15, 17, 18, 19, 20, 22, 23, 25, 26, 28, 29, 30, 31, 34, 35, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 51, 52, 53, 55, 59, 60, 61, 62, 63), <math>B = (1, 56, 50, 14, 3, 54, 32, 2, 6, 16, 16, 2, 33, 58, 27, 57, 36, 7, 24, 2, 4, 33, 36, 32, 49, 48, 4, 40, 54, 58, 50, 49, 5, 1, 56, 36, 5, 48, 49).

An OABD<sub>2</sub>(64,  $4^{40}$ ) with  $A_2(D) = 103$  and  $\mu(D) = 0$ : A = (2, 3, 4, 5, 6, 7, 8, 16, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, 32, 34, 35, 37, 38, 40, 42, 43, 44, 45, 46, 50, 51, 53, 55,

56, 58, 59, 60, 63), B = (14, 61, 52, 11, 41, 49, 54, 25, 11, 26, 48, 52, 57, 54, 41, 10, 13, 57, 39, 14, 49, 11, 47, 1, 15, 15, 13, 26, 13, 9, 52, 62, 61, 52, 61, 33, 48, 15, 54, 1).

An OABD<sub>2</sub>(64,  $4^{41}$ ) with  $A_2(D) = 117$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 32, 35, 36, 37, 40, 42, 44, 45, 46, 48, 50, 51, 52, 54, 55, 56, 58, 60, 61, 62, 63), <math>B = (38, 49, 33, 9, 21, 4, 53, 41, 25, 59, 6, 59, 39, 17, 9, 47, 57, 5, 2, 49, 34, 33, 5, 33, 3, 41, 47, 41, 41, 5, 53, 21, 43, 17, 21, 9, 17, 5, 34, 57, 38).

An OABD<sub>2</sub>(64,  $4^{42}$ ) with  $A_2(D) = 131$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 14, 15, 16, 18, 19, 21, 23, 26, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38, 39, 42, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 59, 60, 61, 62, 63), <math>B = (41, 49, 17, 2, 5, 3, 6, 20, 3, 22, 24, 20, 2, 4, 4, 27, 24, 57, 3, 58, 33, 49, 33, 22, 2, 43, 6, 40, 4, 41, 27, 58, 57, 49, 7, 22, 41, 57, 58, 22, 4, 20).

An OABD<sub>2</sub>(64,  $4^{43}$ ) with  $A_2(D) = 146$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 14, 15, 16, 19, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 38, 39, 40, 43, 44, 45, 46, 47, 50, 51, 52, 53, 54, 55, 56, 59, 60, 62, 63), <math>B = (5, 41, 58, 25, 5, 4, 9, 9, 41, 41, 4, 17, 3, 61, 3, 58, 25, 4, 7, 58, 37, 7, 18, 48, 7, 6, 2, 41, 17, 57, 4, 18, 49, 49, 61, 20, 48, 49, 18, 42, 5, 61, 6).

An OABD<sub>2</sub>(64, 4<sup>44</sup>) with  $A_2(D) = 163$  and  $\mu(D) = 0$ : A = (1, 8, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 37, 39, 40, 42, 43, 44, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 59, 60, 61, 62, 63), <math>B = (7, 10, 9, 6, 46, 9, 41, 49, 35, 25, 5, 22, 57, 41, 3, 10, 25, 25, 7, 22, 3, 38, 38, 4, 33, 46, 41, 5, 22, 46, 22, 17, 35, 9, 5, 35, 7, 17, 58, 2, 58, 57, 7, 22).

An OABD<sub>2</sub>(64,  $4^{45}$ ) with  $A_2(D) = 182$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 15, 16, 18, 19, 20, 22, 23, 24, 26, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 45, 46, 47, 48, 50, 52, 53, 54, 55, 56, 58, 60, 61, 62, 63), <math>B = (2, 59, 3, 14, 25, 9, 9, 5, 27, 17, 17, 3, 6, 9, 41, 27, 25, 7, 17, 25, 57, 2, 21, 33, 51, 33, 25, 27, 41, 5, 4, 21, 33, 3, 27, 51, 14, 49, 6, 33, 3, 7, 4, 5, 6).

An OABD<sub>2</sub>(64, 4<sup>46</sup>) with  $A_2(D) = 207$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47,

49, 50, 51, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63), B = (6, 32, 14, 5, 2, 9, 6, 6, 23, 16, 16, 23, 6, 33, 2, 3, 40, 5, 9, 7, 33, 23, 52, 33, 6, 32, 32, 2, 3, 52, 40, 32, 40, 33, 48, 3, 5, 23, 32, 9, 52, 3, 4, 56, 6, 7).

An OABD<sub>2</sub>(64,  $4^{47}$ ) with  $A_2(D) = 233$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 39, 41, 42, 44, 45, 46, 47, 49, 50, 51, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63), <math>B = (5, 40, 3, 32, 52, 38, 40, 6, 9, 38, 3, 16, 5, 16, 16, 9, 24, 43, 24, 24, 6, 43, 38, 2, 32, 4, 38, 7, 2, 2, 52, 40, 40, 4, 9, 2, 7, 5, 48, 7, 48, 2, 56, 4, 56, 6, 7).

An OABD<sub>2</sub>(64, 4<sup>48</sup>) with  $A_2(D) = 263$  and  $\mu(D) = 0$ : A = (1, 8, 10, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63), <math>B = (3, 40, 9, 9, 6, 11, 9, 33, 16, 24, 4, 16, 16, 7, 9, 2, 3, 4, 5, 6, 7, 3, 32, 32, 4, 33, 32, 9, 11, 11, 40, 40, 6, 40, 16, 48, 56, 48, 5, 48, 48, 9, 56, 3, 4, 5, 6, 7).

An OABD<sub>2</sub>(64,  $4^{49}$ ) with  $A_2(D) = 294$  and  $\mu(D) = 0$ : A = (9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 2, 8, 4, 5, 8, 7, 16, 16, 3, 4, 16, 16, 1, 24, 24, 4, 5, 24, 24, 32, 2, 32, 32, 32, 32, 32, 1, 2, 40, 4, 40, 40, 40, 1, 2, 48, 48, 5, 48, 7, 1, 2, 3, 56, 5, 6, 7).

An OABD<sub>2</sub>(64,  $4^{50}$ ) with  $A_2(D) = 336$  and  $\mu(D) = 0$ : A = (1, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 58, 59, 60, 61, 62, 63), <math>B = (6, 17, 3, 2, 9, 9, 9, 6, 41, 3, 2, 5, 4, 17, 6, 57, 3, 25, 25, 25, 7, 25, 17, 33, 33, 5, 33, 7, 6, 33, 3, 41, 41, 41, 7, 6, 41, 3, 2, 49, 49, 7, 49, 49, 3, 2, 57, 4, 57, 57).

An OABD<sub>2</sub>(64,  $4^{51}$ ) with  $A_2(D) = 382$  and  $\mu(D) = 1$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 37, 38, 40, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 1, 4, 39, 41, 8, 31, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 1, 4, 39, 41, 8, 31, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63)

8, 42, 39, 31, 16, 2, 51, 20, 20, 8, 8, 42, 41, 31, 8, 31, 1, 1, 42, 4, 32, 39, 1, 32, 1, 51, 4, 4, 8, 32, 2, 1, 32, 31, 41, 4, 39, 16, 16, 8, 41, 41, 20, 31).

An OABD<sub>2</sub>(64,  $4^{52}$ ) with  $A_2(D) = 394$  and  $\mu(D) = 6$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 33, 34, 35, 36, 37, 38, 40, 42, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 1, 4, 32, 41, 8, 29, 4, 16, 41, 31, 1, 2, 51, 4, 29, 51, 31, 16, 29, 41, 4, 29, 31, 41, 2, 4, 32, 39, 39, 32, 2, 2, 31, 4, 29, 39, 16, 2, 51, 29, 1, 41, 39, 39, 41, 29, 8, 1, 32, 31, 32).

An OABD<sub>2</sub>(64,  $4^{53}$ ) with  $A_2(D) = 392$  and  $\mu(D) = 14$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 37, 38, 40, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 1, 4, 32, 1, 8, 41, 8, 18, 41, 31, 16, 1, 16, 2, 4, 31, 16, 2, 18, 4, 16, 2, 1, 41, 32, 4, 4, 39, 39, 41, 18, 2, 18, 4, 32, 8, 32, 16, 32, 1, 18, 39, 31, 16, 39, 41, 32, 41, 8, 41, 32, 32).

An OABD<sub>2</sub>(64,  $4^{54}$ ) with  $A_2(D) = 399$  and  $\mu(D) = 21$ : A = (3, 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (2, 4, 4, 32, 8, 2, 4, 4, 8, 16, 1, 2, 2, 4, 9, 31, 31, 8, 9, 16, 4, 39, 31, 1, 32, 2, 39, 32, 2, 39, 32, 9, 8, 39, 1, 9, 9, 8, 32, 8, 4, 32, 31, 9, 1, 39, 39, 31, 4, 1, 9, 32, 16, 32).

An OABD<sub>2</sub>(64,  $4^{55}$ ) with  $A_2(D) = 418$  and  $\mu(D) = 27$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 4, 4, 32, 1, 8, 1, 4, 4, 1, 31, 16, 2, 8, 16, 16, 16, 8, 8, 1, 31, 31, 31, 2, 31, 32, 32, 4, 32, 39, 1, 32, 39, 4, 32, 8, 2, 2, 39, 16, 8, 39, 32, 1, 2, 39, 39, 39, 2, 31, 16, 8, 32, 4, 31).

63, 8, 4, 4, 32, 16, 2, 63, 16, 16, 32, 32, 8, 4, 1, 1, 63, 16, 8, 2, 63, 1, 63, 1).

An OABD<sub>2</sub>(64,  $4^{57}$ ) with  $A_2(D) = 444$  and  $\mu(D) = 42$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (2, 1, 2, 2, 1, 8, 32, 4, 2, 8, 32, 1, 2, 1, 16, 32, 2, 8, 16, 1, 16, 1, 2, 8, 8, 32, 32, 32, 4, 32, 8, 32, 1, 8, 16, 8, 16, 16, 4, 4, 1, 32, 4, 1, 16, 4, 4, 8, 32, 16, 2, 2, 32, 16, 2, 8, 2).

An OABD<sub>2</sub>(64,  $4^{58}$ ) with  $A_2(D) = 484$  and  $\mu(D) = 48$ : A = (3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (1, 1, 2, 1, 8, 8, 1, 8, 2, 2, 1, 16, 16, 1, 4, 4, 8, 4, 16, 8, 2, 2, 1, 2, 4, 8, 8, 16, 8, 4, 16, 4, 8, 16, 16, 4, 2, 8, 1, 8, 16, 16, 4, 16, 16, 2, 1, 1, 1, 2, 2, 8, 1, 1, 16, 2, 4).

An OABD<sub>2</sub>(64,  $4^{59}$ ) with  $A_2(D) = 558$  and  $\mu(D) = 53$ : A = (3, 5, 6, 7, 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, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63), <math>B = (2, 1, 2, 1, 1, 2, 2, 4, 8, 1, 8, 1, 2, 8, 8, 2, 2, 2, 2, 8, 1, 8, 4, 1, 4, 1, 1, 8, 2, 4, 2, 4, 8, 8, 1, 2, 2, 8, 2, 4, 8, 4, 8, 4, 2, 2, 8, 1, 4, 4, 4, 1, 1, 4, 4, 1, 8, 1, 8).

## 27-run designs

An OABD<sub>3</sub>(27, 9<sup>2</sup>) with  $A_2(D) = 2$  and  $\mu(D) = 0$ : A = (4, 9), B = (1, 2).

An OABD<sub>3</sub>(27, 9<sup>3</sup>) with  $A_2(D) = 6$  and  $\mu(D) = 0$ : A = (4, 9, 10), B = (1, 2, 1).

An OABD<sub>3</sub>(27, 9<sup>4</sup>) with  $A_2(D) = 12$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11), B = (1, 2, 1, 2).

An OABD<sub>3</sub>(27, 9<sup>5</sup>) with  $A_2(D) = 20$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12), B = (1, 2, 1, 2, 5).

An OABD<sub>3</sub>(27, 9<sup>6</sup>) with  $A_2(D) = 30$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12, 13), B = (1, 2, 1, 2, 5, 1).

An OABD<sub>3</sub>(27, 9<sup>7</sup>) with  $A_2(D) = 42$  and  $\mu(D) = 6$ : A = (4, 9, 10, 11, 12, 13, 6), B = (1, 7, 5, 7, 8, 8, 8).

An OABD<sub>3</sub>(27, 9<sup>8</sup>) with  $A_2(D) = 68$  and  $\mu(D) = 12$ : A = (4, 9, 10, 11, 12, 13, 2, 7),B = (3, 8, 5, 6, 8, 6, 3, 1).

An OABD<sub>3</sub>(27, 9<sup>9</sup>) with  $A_2(D) = 90$  and  $\mu(D) = 18$ : A = (4, 9, 10, 11, 12, 13, 1, 8, 5),B = (6, 2, 3, 7, 7, 6, 2, 2, 2).

3), B = (2, 2, 6, 1, 6, 2, 2, 2, 6, 1).

An OABD<sub>3</sub>(27, 9<sup>11</sup>) with  $A_2(D) = 134$  and  $\mu(D) = 40$ : A = (4, 9, 10, 11, 12, 13, 2, 3, 7, 8, 5), <math>B = (6, 1, 1, 6, 6, 6, 6, 1, 1, 6, 6).

#### 81-run designs

An OABD<sub>3</sub>(81, 9<sup>11</sup>) with  $A_2(D) = 8$  and  $\mu(D) = 0$ : A = (4, 9, 10, 13, 23, 24, 26, 27, 29, 30, 34), <math>B = (14, 25, 38, 1, 37, 28, 22, 12, 8, 33, 2).

An OABD<sub>3</sub>(81, 9<sup>12</sup>) with  $A_2(D) = 16$  and  $\mu(D) = 0$ : A = (4, 11, 12, 13, 23, 29, 31, 32, 34, 36, 38, 40), <math>B = (16, 22, 8, 35, 7, 22, 9, 28, 14, 1, 6, 2).

An OABD<sub>3</sub>(81, 9<sup>13</sup>) with  $A_2(D) = 24$  and  $\mu(D) = 0$ : A = (9, 11, 12, 23, 29, 30, 32, 33, 34, 35, 36, 39, 40), <math>B = (2, 18, 37, 24, 31, 28, 5, 19, 22, 38, 26, 4, 13).

 $29,\, 31,\, 32,\, 35,\, 36,\, 37),\, B=(40,\, 7,\, 25,\, 25,\, 39,\, 5,\, 22,\, 27,\, 2,\, 33,\, 22,\, 27,\, 12,\, 23).$ 

32, 33, 35, 36, 38, 39, 40), B = (4, 9, 21, 5, 7, 19, 14, 16, 34, 28, 8, 22, 2, 6, 14).

31, 32, 33, 35, 36, 37, 38, 39), B = (5, 26, 9, 17, 15, 18, 16, 19, 12, 2, 21, 22, 25, 34, 3, 4).

28, 29, 32, 33, 34, 35, 36, 39, 40), B = (4, 6, 7, 37, 20, 18, 8, 11, 30, 14, 7, 38, 21, 11, 13, 22, 22).

An OABD<sub>3</sub>(81, 9<sup>18</sup>) with  $A_2(D) = 84$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12, 23, 24, 25, 26, 27, 29, 30, 31, 33, 34, 35, 36, 37), <math>B = (21, 32, 32, 3, 8, 39, 19, 21, 20, 15, 16, 17, 17, 38, 40, 14, 19, 39).

An OABD<sub>3</sub>(81, 9<sup>19</sup>) with  $A_2(D) = 102$  and  $\mu(D) = 0$ : A = (4, 9, 11, 12, 13, 18, 23, 24, 26, 27, 29, 31, 32, 33, 34, 35, 36, 37, 40), <math>B = (15, 15, 25, 3, 7, 16, 2, 6, 5, 38, 16, 25, 8, 15, 7, 39, 10, 19, 3).

An OABD<sub>3</sub>(81, 9<sup>20</sup>) with  $A_2(D) = 126$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 18, 23, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 37, 39, 40), <math>B = (12, 2, 19, 13, 21, 2, 16, 5, 7, 15, 2, 17, 38, 33, 21, 19, 38, 20, 13, 3).

17, 17, 19, 6, 15, 6, 20, 19, 3).

An OABD<sub>3</sub>(81, 9<sup>22</sup>) with  $A_2(D) = 190$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40), <math>B = (2, 8, 1, 20, 27, 7, 25, 21, 20, 22, 14, 25, 17, 17, 15, 27, 7, 22, 22, 19, 22, 25).

An OABD<sub>3</sub>(81, 9<sup>23</sup>) with  $A_2(D) = 234$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40), <math>B = (7, 2, 21, 2, 7, 15, 2, 20, 5, 5, 22, 14, 8, 3, 17, 14, 6, 14, 12, 1, 15, 19, 1).

An OABD<sub>3</sub>(81, 9<sup>24</sup>) with  $A_2(D) = 284$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40), <math>B = (3, 2, 5, 13, 3, 2, 22, 15, 5, 22, 7, 1, 2, 14, 16, 5, 14, 21, 13, 16, 1, 2, 22, 21).

An OABD<sub>3</sub>(81, 9<sup>25</sup>) with  $A_2(D) = 330$  and  $\mu(D) = 0$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40), <math>B = (3, 2, 5, 5, 8, 8, 17, 2, 5, 21, 5, 22, 14, 16, 17, 16, 19, 14, 21, 8, 6, 20, 19, 22, 22).

An OABD<sub>3</sub>(81, 9<sup>26</sup>) with  $A_2(D) = 328$  and  $\mu(D) = 10$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 16), <math>B = (3, 2, 6, 5, 3, 1, 2, 20, 20, 17, 22, 7, 15, 8, 17, 3, 19, 14, 7, 14, 17, 20, 2, 19, 21, 21).

An OABD<sub>3</sub>(81, 9<sup>27</sup>) with  $A_2(D) = 350$  and  $\mu(D) = 18$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 21, 16), <math>B = (1, 8, 5, 5, 8, 7, 15, 22, 15, 17, 5, 7, 1, 7, 14, 3, 5, 20, 8, 22, 6, 20, 19, 19, 20, 7, 17).

An OABD<sub>3</sub>(81, 9<sup>28</sup>) with  $A_2(D) = 382$  and  $\mu(D) = 26$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 16, 17, 15), <math>B = (1, 8, 6, 2, 5, 7, 7, 2, 20, 7, 21, 21, 8, 7, 3, 6, 19, 6, 7, 14, 6, 1, 19, 3, 22, 6, 14, 20).

An OABD<sub>3</sub>(81, 9<sup>29</sup>) with  $A_2(D) = 430$  and  $\mu(D) = 34$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 16, 20, 8, 6), <math>B = (3, 7, 19, 5, 5, 7, 17, 2, 17, 21, 5, 15, 14, 7, 14, 1, 14, 15, 7, 15, 17, 3, 21, 19, 1, 2, 19, 22, 1).

24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 17, 15, 19, 6, 20), B = (1, 8, 7, 2, 3, 8, 3, 8, 21, 21, 5, 7, 21, 16, 3, 16, 7, 16, 7, 14, 22, 21, 21, 22, 1, 5, 1, 14, 5, 2).

An OABD<sub>3</sub>(81, 9<sup>31</sup>) with  $A_2(D) = 508$  and  $\mu(D) = 52$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 20, 8, 5, 21, 19, 2), <math>B = (15, 3, 7, 3, 6, 7, 3, 7, 17, 6, 17, 15, 14, 16, 14, 1, 15, 14, 7, 22, 16, 15, 7, 22, 1, 6, 14, 1, 1, 22, 15).

An OABD<sub>3</sub>(81, 9<sup>32</sup>) with  $A_2(D) = 566$  and  $\mu(D) = 58$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 21, 20, 5, 14, 16, 1, 17), <math>B = (3, 6, 7, 2, 6, 3, 2, 22, 6, 19, 8, 7, 6, 7, 8, 3, 6, 19, 8, 22, 22, 15, 19, 19, 15, 19, 22, 3, 8, 22, 7, 2).

An OABD<sub>3</sub>(81, 9<sup>33</sup>) with  $A_2(D) = 650$  and  $\mu(D) = 64$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 6, 20, 2, 17, 5, 15, 21, 14), <math>B = (3, 3, 3, 19, 3, 1, 3, 16, 3, 19, 8, 22, 16, 7, 8, 16, 16, 16, 19, 22, 22, 19, 16, 19, 1, 16, 1, 3, 1, 3, 7, 22, 22).

An OABD<sub>3</sub>(81, 9<sup>34</sup>) with  $A_2(D) = 656$  and  $\mu(D) = 84$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 14, 1, 15, 7, 5, 22, 3, 8, 16), <math>B = (21, 2, 17, 20, 19, 2, 17, 20, 6, 6, 6, 20, 6, 21, 19, 21, 2, 20, 21, 19, 21, 20, 21, 20, 6, 6, 19, 2, 2, 21, 2, 19, 2, 2).

An OABD<sub>3</sub>(81, 9<sup>35</sup>) with  $A_2(D) = 696$  and  $\mu(D) = 100$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 8, 22, 5, 21, 16, 6, 2, 15, 3, 19), <math>B = (7, 7, 20, 20, 1, 1, 20, 17, 17, 17, 20, 17, 14, 20, 14, 1, 14, 14, 14, 20, 17, 1, 1, 7, 14, 7, 14, 17, 7, 17, 14, 14, 14, 14, 20).

An OABD<sub>3</sub>(81, 9<sup>36</sup>) with  $A_2(D) = 704$  and  $\mu(D) = 120$ : A = (4, 9, 10, 11, 12, 13, 18, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 15, 16, 8, 14, 22, 21, 1, 20, 19, 3, 2), <math>B = (6, 17, 6, 7, 7, 7, 7, 7, 17, 17, 17, 7, 17, 6, 17, 7, 7, 5, 6, 17, 5, 7, 6, 17, 17, 5, 5, 6, 5, 17, 7, 6, 5, 6, 6, 5).