

A341953 generalized and plotted in arbitrary bases

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The sequence [A341953](#) can be generalized to any base $b > 1$: Let $a_b(n)$ be the number obtained by replacing each digit d in the base- b representation of n with the base- b digital root of d^n . The following pages contain plots of a_b for $b \in \{2, 3, \dots, 20\}$.

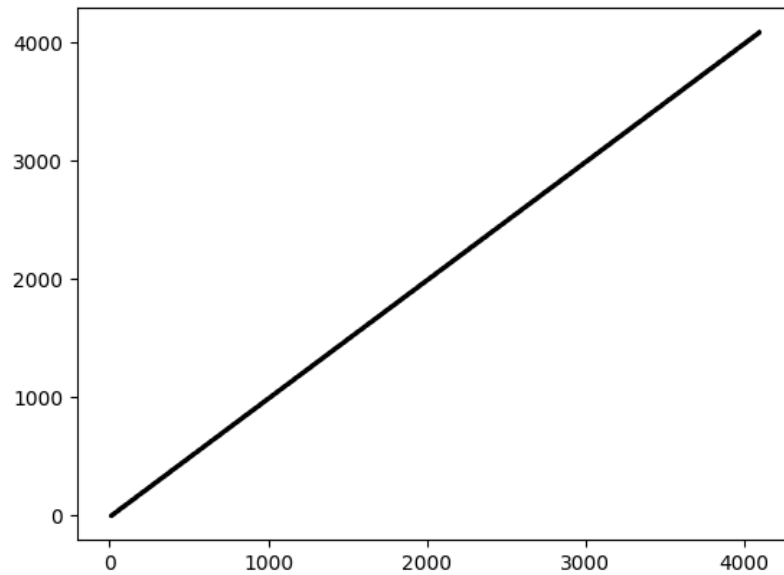


Figure 1: $a_2(n)$ for $n \in \{1, 2, \dots, 2^{12}\}$.

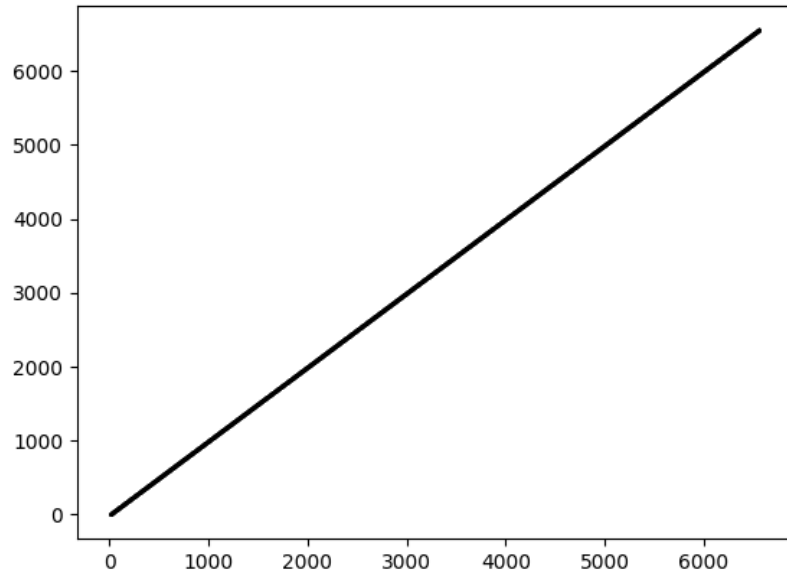


Figure 2: $a_3(n)$ for $n \in \{1, 2, \dots, 3^8\}$.

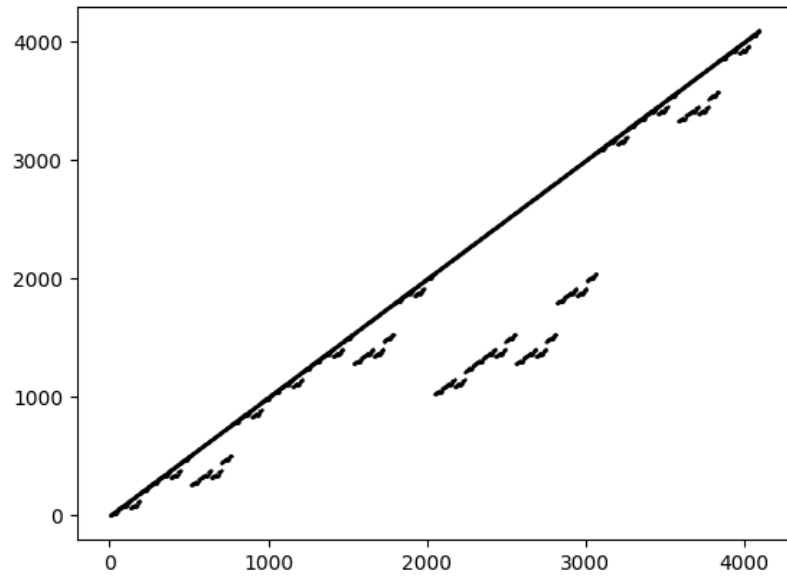


Figure 3: $a_4(n)$ for $n \in \{1, 2, \dots, 4^6\}$.

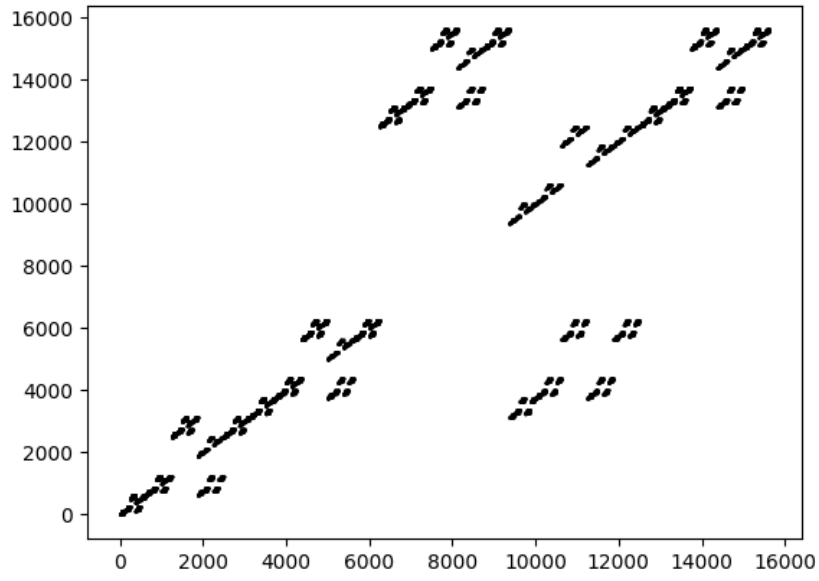


Figure 4: $a_5(n)$ for $n \in \{1, 2, \dots, 5^6\}$.

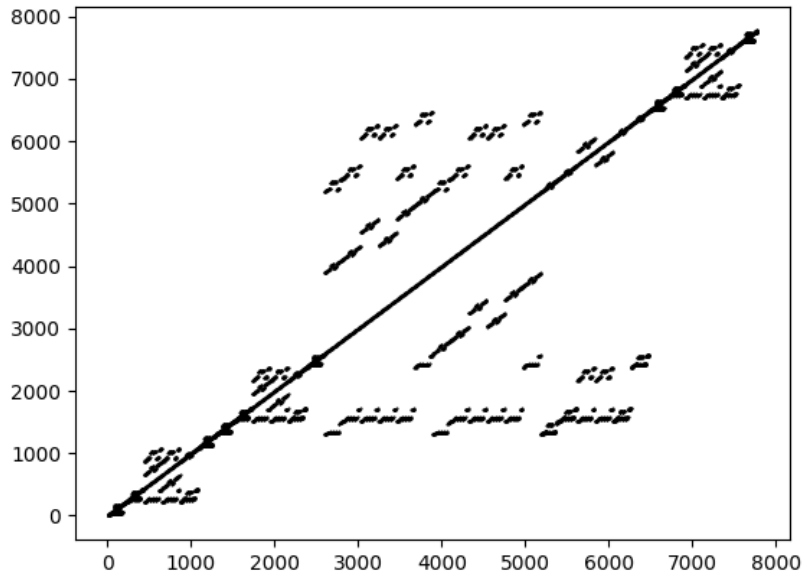


Figure 5: $a_6(n)$ for $n \in \{1, 2, \dots, 6^5\}$.

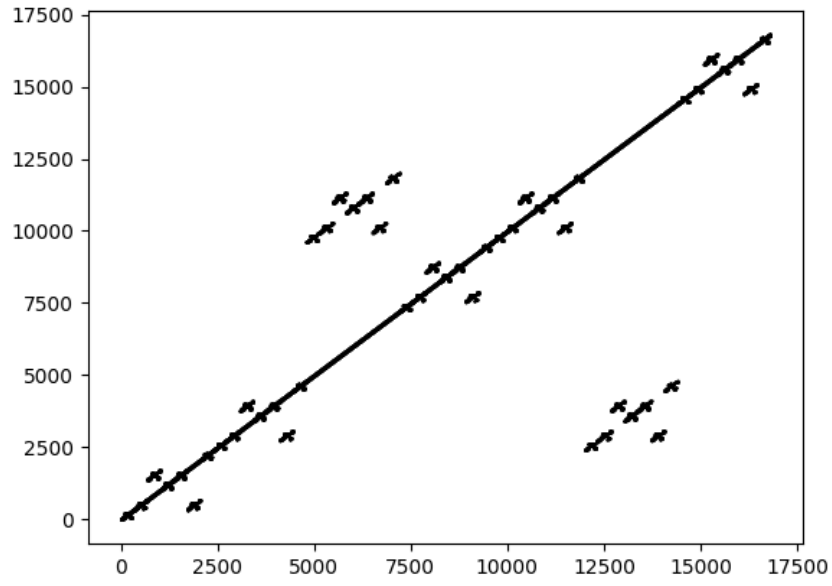


Figure 6: $a_7(n)$ for $n \in \{1, 2, \dots, 7^5\}$.

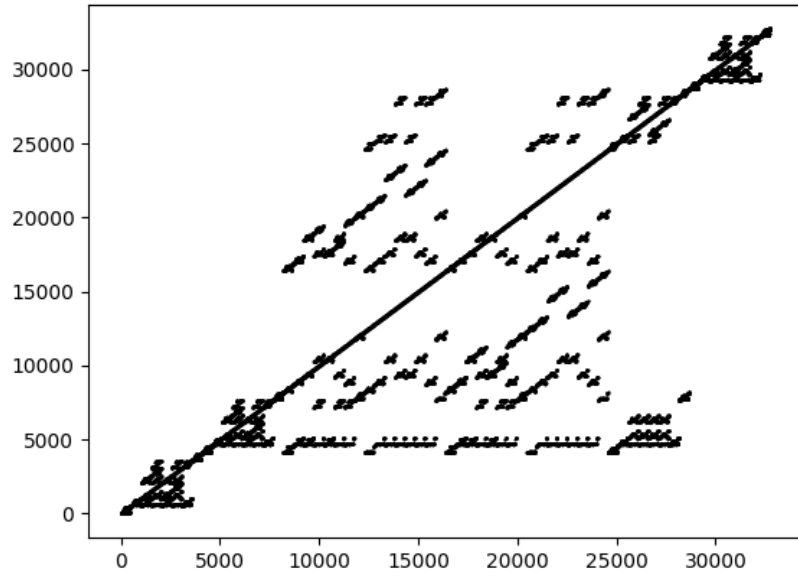


Figure 7: $a_8(n)$ for $n \in \{1, 2, \dots, 8^5\}$.

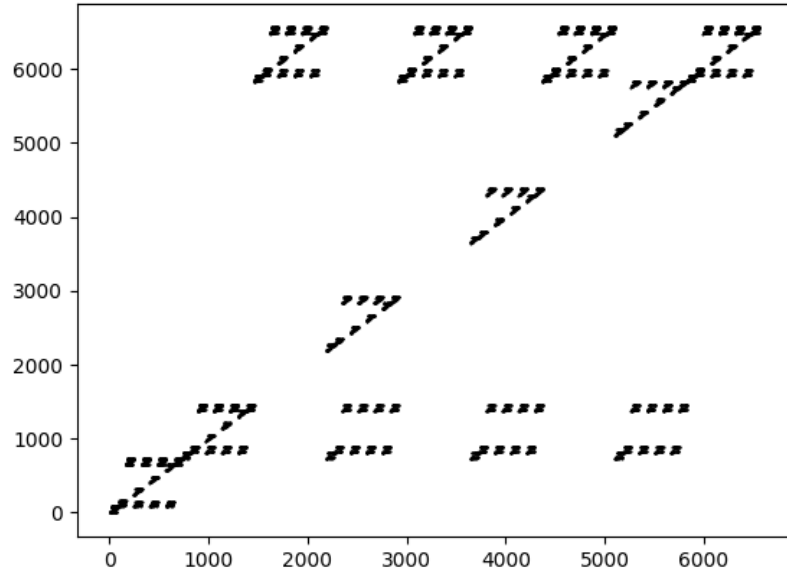


Figure 8: $a_9(n)$ for $n \in \{1, 2, \dots, 9^4\}$.

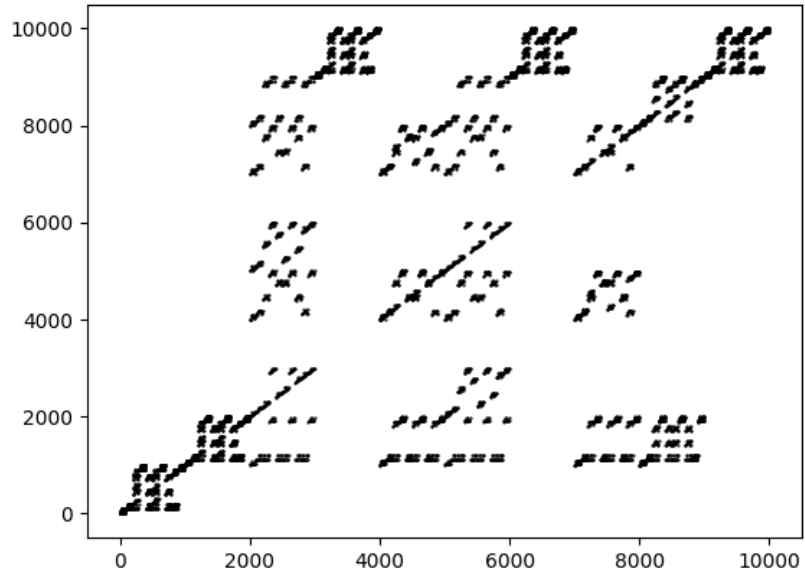


Figure 9: $a_{10}(n)$ for $n \in \{1, 2, \dots, 10^4\}$.

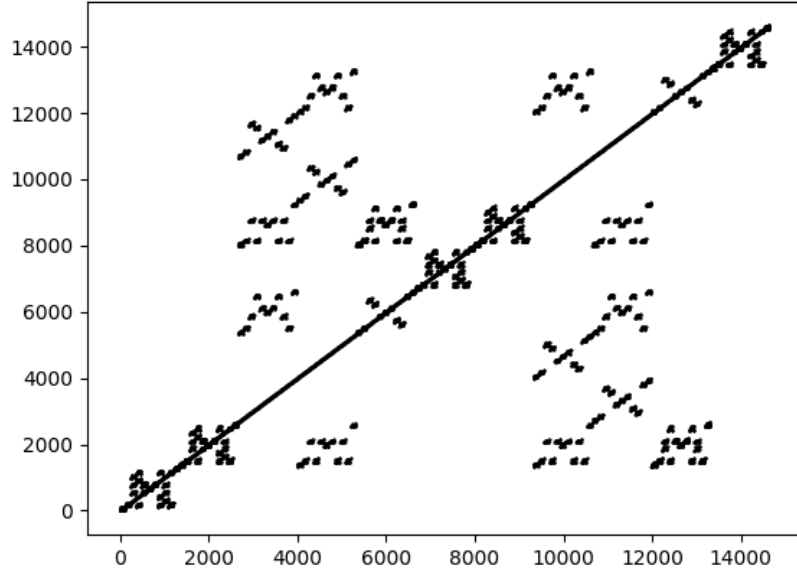


Figure 10: $a_{11}(n)$ for $n \in \{1, 2, \dots, 11^4\}$.

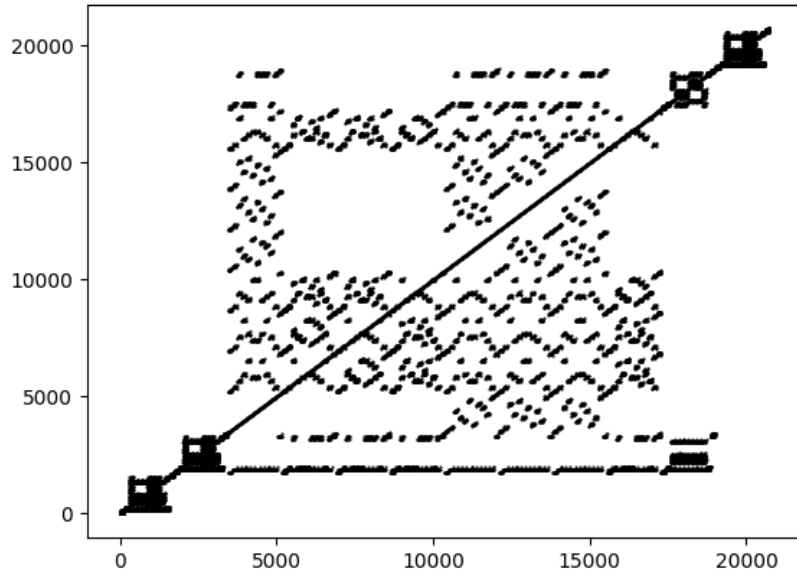


Figure 11: $a_{12}(n)$ for $n \in \{1, 2, \dots, 12^4\}$.

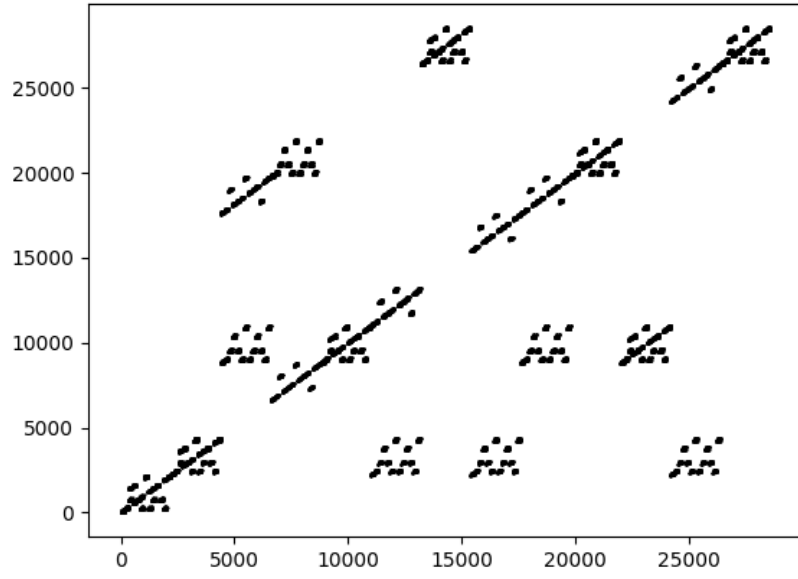


Figure 12: $a_{13}(n)$ for $n \in \{1, 2, \dots, 13^4\}$.

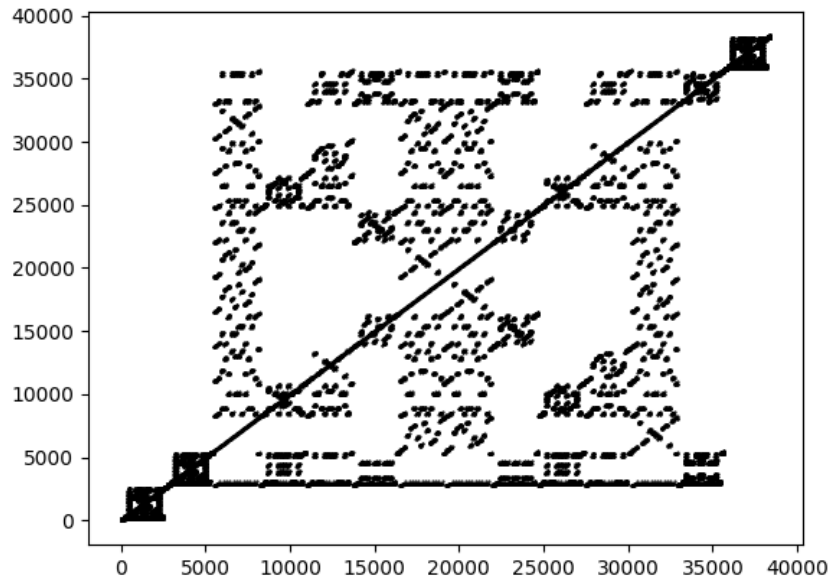


Figure 13: $a_{14}(n)$ for $n \in \{1, 2, \dots, 14^4\}$.

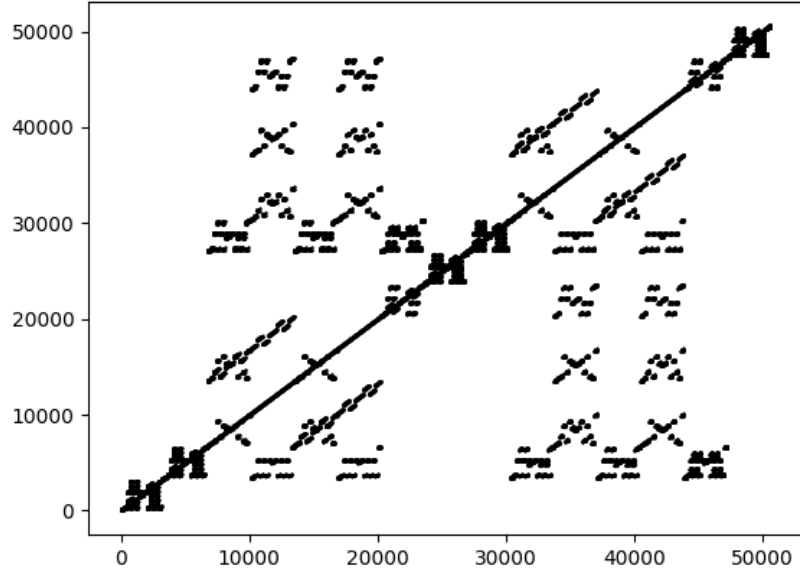


Figure 14: $a_{15}(n)$ for $n \in \{1, 2, \dots, 15^4\}$.

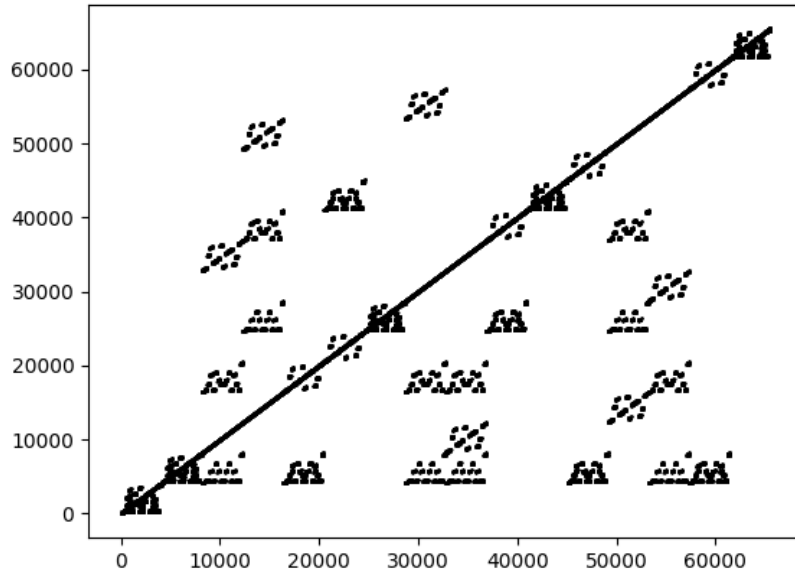


Figure 15: $a_{16}(n)$ for $n \in \{1, 2, \dots, 16^4\}$.

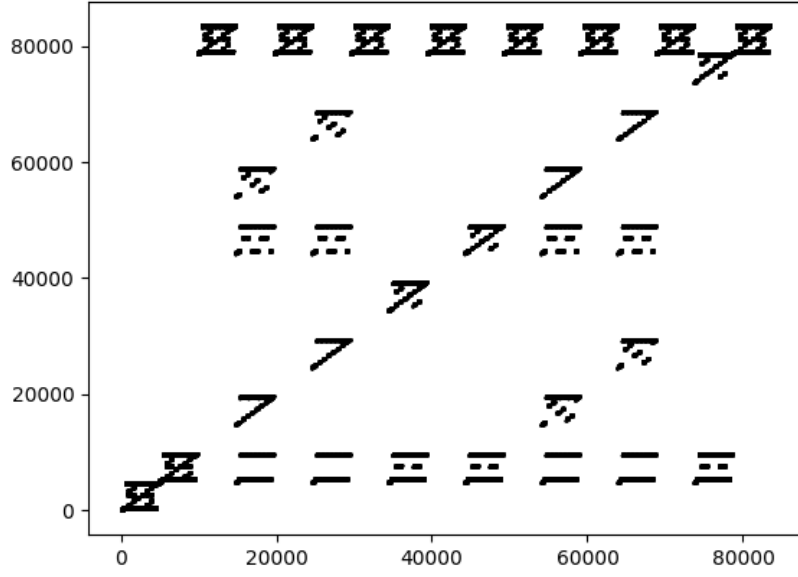


Figure 16: $a_{17}(n)$ for $n \in \{1, 2, \dots, 17^4\}$.

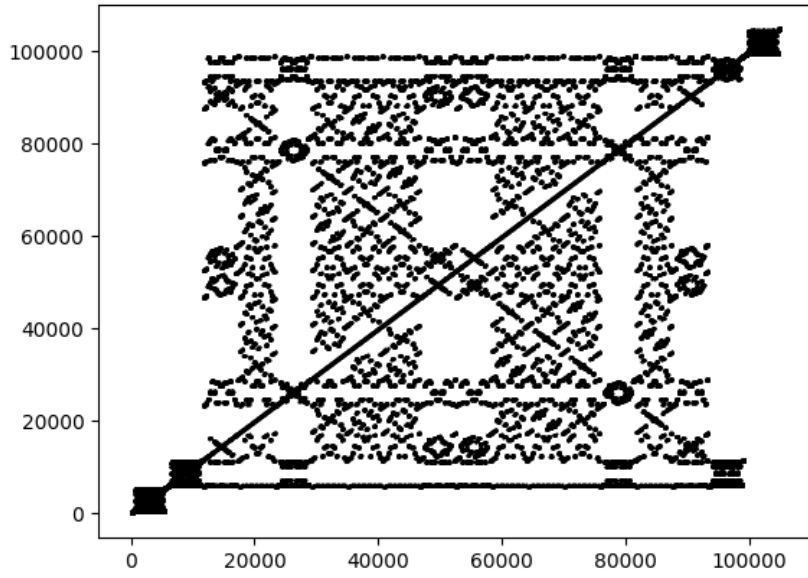


Figure 17: $a_{18}(n)$ for $n \in \{1, 2, \dots, 18^4\}$.

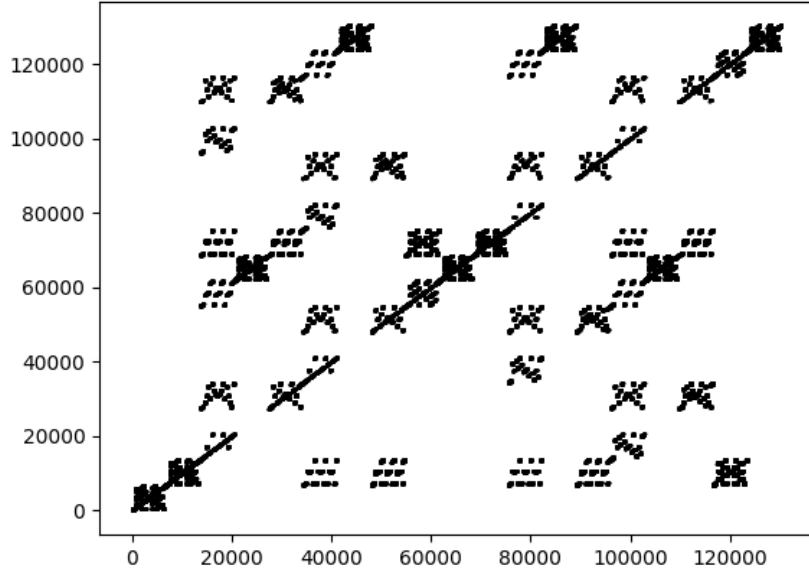


Figure 18: $a_{19}(n)$ for $n \in \{1, 2, \dots, 19^4\}$.

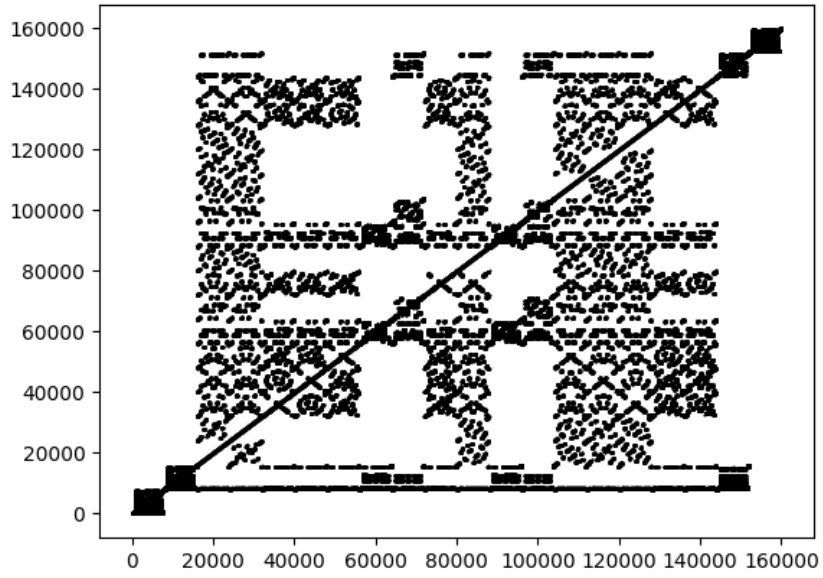


Figure 19: $a_{20}(n)$ for $n \in \{1, 2, \dots, 20^4\}$.