THE GAUSSIAN ZOO

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Abstract. We find all the maximal admissible connected sets of Gaussian primes: there are 52 of them. Our catalog corrects some errors in the literature. We also describe a totally automated procedure to determine the heuristic estimates for how often various patterns, in either the integers or Gaussian integers, occur in the primes. This heuristic requires a generalization of a classical formula of Mertens to the Gaussian integers, which we derive from a formula of Uchiyama regarding an Euler product that involves only primes congruent to $1 \pmod 4$.