Enhanced perfect power

[Award] **9 pts**

[Category] **Math**

A [perfect power](https://en.wikipedia.org/wiki/Perfect_power) *n* is called enhanced if there exists two integers *m* > 0 and *k* > 2 such that *n* = *mk*. The enhanced perfect powers no more than 100 are 1, 8, 16, 27, 32, 64, 81.

Let *S*(*N*) be the sum of all enhanced perfect powers no more than *N*. You are given S(100) = 229, S(10000) = 99352 and S(108) mod 1000000007 = 553225565.

Find S(10100) mod 1000000007.

[Answer] **354093088**