Conjecture that states that numbers 16^n-4^n+1 are either primes either divisible by Poulet numbers

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Abstract. In this paper I conjecture that any number of the form 16^n – 4^n + 1, where n is positive integer, is either prime either divisible by a Poulet number (see the sequence A020520 in OEIS for the sequence of the numbers of this form).

Conjecture:

Any number of the form a(n) = 16^n – 4^n + 1, where n is positive integer, is either prime either divisible by a Poulet number.

Note: see the sequence A020520 in OEIS for the numbers of this form.

Verifying the conjecture:
(for the first nine such numbers)

: a(1) = 13 which is prime;

: a(2) = 241 which is prime;

: a(3) = 4033 which is a Poulet number;

: a(4) = 65281 which is a Poulet number;

: a(5) = 1047553 = 13*61*1321 and 61*1321 = 80581 which is a Poulet number;

: a(6) = 16773121 which is a Poulet number;

: a(7) = 268419073 = 13*1429*14449 and 1429*14449 = 20647621 which is a Poulet number;

: a(8) = 4294901761 which is a Poulet number;

: a(9) = 68719214593 which is a Poulet number.