Additional information # 1: more on the evolution

s	p	n	s	p	n	*n**	s	p	n	*n**	s	p	n	*n**
1	2	**1**	43	191	**14**	*1*	85	439	**354**	*29*	127	709	**2,008**	*139*
2	3	**1**	44	193	**24**	*2*	86	443	**354**	*31*	128	719	**2,141**	*145*
3	5	**1**	45	197	**24**	*3*	87	449	**365**	*32*	129	727	**2,136**	*151*
4	7	**1**	46	199	**28**	*5*	88	457	**369**	*33*	130	733	**2,241**	*159*
5	11	**2**	47	211	**30**	*5*	89	461	**358**	*33*	131	739	**2,354**	*166*
6	13	**2**	48	223	**36**	*5*	90	463	**387**	*34*	132	743	**2,442**	*179*
7	17	**3**	49	227	**49**	*5*	91	467	**413**	*35*	133	751	**2,548**	*181*
8	19	**3**	50	229	**44**	*5*	92	479	**426**	*36*	134	757	**2,649**	*187*
9	23	**4**	51	233	**52**	*5*	93	487	**446**	*37*	135	761	**2,791**	*196*
10	29	**6**	52	239	**53**	*5*	94	491	**454**	*37*	136	769	**2,998**	*203*
11	31	**4**	53	241	**55**	*5*	95	499	**491**	*37*	137	773	**3,017**	*211*
12	37	**5**	54	251	**67**	*6*	96	503	**456**	*38*	138	787	**3,148**	*218*
13	41	**5**	55	257	**69**	*6*	97	509	**490**	*38*	139	797	**3,132**	*228*
14	43	**9**	56	263	**72**	*7*	98	521	**559**	*41*	140	809	**3,385**	*235*
15	47	**11**	57	269	**81**	*7*	99	523	**573**	*43*	141	811	**3,537**	*251*
16	53	**10**	58	271	**79**	*7*	100	541	**594**	*47*	142	821	**3,698**	*256*
17	59	**12**	59	277	**85**	*8*	101	547	**652**	*47*	143	823	**3,914**	*267*
18	61	**8**	60	281	**83**	*8*	102	557	**718**	*50*	144	827	**4,175**	*272*
19	67	**6**	61	283	**93**	*8*	103	563	**757**	*50*	145	829	**4,345**	*279*
20	71	**11**	62	293	**81**	*9*	104	569	**786**	*53*	146	839	**4,360**	*290*
21	73	**5**	63	307	**81**	*9*	105	571	**835**	*55*	147	853	**4,537**	*298*
22	79	**4**	64	311	**67**	*9*	106	577	**839**	*57*	148	857	**4,722**	*310*
23	83	**6**	65	313	**66**	*11*	107	587	**854**	*59*	149	859	**4,862**	*314*
24	89	**3**	66	317	**74**	*11*	108	593	**906**	*63*	150	863	**4,951**	*327*
25	97	**2**	67	331	**91**	*12*	109	599	**916**	*65*	151	877	**5,099**	*340*
26	101	**1**	68	337	**88**	*12*	110	601	**998**	*69*	152	881	**5,228**	*354*
27	103	**3**	69	347	**90**	*14*	111	607	**988**	*72*	153	883	**5,334**	*366*
28	107	**1**	70	349	**95**	*15*	112	613	**1,016**	*75*	154	887	**5,460**	*373*
29	109	**1**	71	353	**102**	*16*	113	617	**1,078**	*79*	155	907	**5,715**	*388*
30	113	**3**	72	359	**126**	*18*	114	619	**1,165**	*82*	156	911	**5,971**	*398*
31	127	**2**	73	367	**152**	*19*	115	631	**1,237**	*85*	157	919	**6,366**	*413*
32	131	**5**	74	373	**154**	*19*	116	641	**1,295**	*87*	158	929	**6,582**	*423*
33	137	**6**	75	379	**166**	*19*	117	643	**1,371**	*91*	159	937	**6,799**	*443*
34	139	**12**	76	383	**187**	*20*	118	647	**1,399**	*94*	160	941	**7,006**	*465*
35	149	**21**	77	389	**214**	*20*	119	653	**1,523**	*98*	161	947	**7,151**	*474*
36	151	**19**	78	397	**206**	*21*	120	659	**1,618**	*102*	162	953	**7,599**	*485*
37	157	**15**	79	401	**201**	*21*	121	661	**1,701**	*106*	163	967	**7,920**	*505*
38	163	**16**	80	409	**220**	*21*	122	673	**1,773**	*109*	164	971	**8,276**	*523*
39	167	**24**	81	419	**241**	*23*	123	677	**1,801**	*117*	165	977	**8,708**	*537*
40	173	**18**	82	421	**249**	*25*	124	683	**1,889**	*122*	166	983	**9,086**	*549*
41	179	**18**	83	431	**269**	*25*	125	691	**1,885**	*128*	167	991	**9,577**	*567*
42	181	**17**	84	433	**320**	*27*	126	701	**1,944**	*133*	168	997	**9,736**	*584*

Table 7a. Data for s ≤ 168, using BPSW-pseudoprimality for s ≥ 110. Stage 139 is the last known point where the number of primes decreases. (Interestingly enough, just before that happens, n = 4*p, which is the only known – but certainly not the only – example where n is a multiple of p.) As for the column *n**, see Table 7b below.

s	p	n	n^*	s	p	n	n^*	s	p	n	n^*
169	1,009	**10,329**	*601*	211	1,297	**36,546**	*2,175*	253	1,607	**124,407**	*8,454*
170	1,013	**10,722**	*610*	212	1,301	**37,363**	*2,236*	254	1,609	**126,382**	*8,764*
171	1,019	**11,048**	*627*	213	1,303	**38,018**	*2,313*	255	1,613	**128,949**	*9,084*
172	1,021	**11,387**	*655*	214	1,307	**38,936**	*2,385*	256	1,619	**130,732**	*9,386*
173	1,031	**11,769**	*685*	215	1,319	**39,633**	*2,484*	257	1,621	**132,088**	*9,737*
174	1,033	**12,251**	*703*	216	1,321	**40,152**	*2,571*	258	1,627	**133,678**	*10,114*
175	1,039	**12,490**	*730*	217	1,327	**40,822**	*2,664*	259	1,637	**135,308**	*10,470*
176	1,049	**12,905**	*752*	218	1,361	**42,524**	*2,761*	260	1,657	**137,970**	*10,900*
177	1,051	**13,209**	*771*	219	1,367	**44,138**	*2,853*	261	1,663	**141,747**	*11,343*
178	1,061	**13,556**	*797*	220	1,373	**45,674**	*2,948*	262	1,667	**144,129**	*11,793*
179	1,063	**13,918**	*821*	221	1,381	**47,308**	*3,049*	263	1,669	**146,278**	*12,255*
180	1,069	**14,393**	*846*	222	1,399	**49,203**	*3,148*	264	1,693	**150,011**	*12,788*
181	1,087	**15,006**	*877*	223	1,409	**50,999**	*3,245*	265	1,697	**153,719**	*13,352*
182	1,091	**15,472**	*900*	224	1,423	**53,578**	*3,344*	266	1,699	**157,438**	*13,897*
183	1,093	**15,695**	*937*	225	1,427	**56,009**	*3,446*	267	1,709	**160,935**	*14,542*
184	1,097	**16,075**	*967*	226	1,429	**58,245**	*3,546*	268	1,721	**164,713**	*15,257*
185	1,103	**16,548**	*1,002*	227	1,433	**60,614**	*3,686*	269	1,723	**168,209**	*16,035*
186	1,109	**16,852**	*1,043*	228	1,439	**63,012**	*3,812*	270	1,733	**171,914**	*16,847*
187	1,117	**17,548**	*1,068*	229	1,447	**65,622**	*3,906*	271	1,741	**175,208**	*17,721*
188	1,123	**17,926**	*1,102*	230	1,451	**67,609**	*4,048*	272	1,747	**178,924**	*18,702*
189	1,129	**18,415**	*1,131*	231	1,453	**69,411**	*4,176*	273	1,753	**182,442**	*19,771*
190	1,151	**19,145**	*1,167*	232	1,459	**71,677**	*4,298*	274	1,759	**186,286**	*20,973*
191	1,153	**19,690**	*1,193*	233	1,471	**73,978**	*4,436*	275	1,777	**190,466**	*22,336*
192	1,163	**20,364**	*1,229*	234	1,481	**76,816**	*4,602*	276	1,783	**196,294**	*23,692*
193	1,171	**21,154**	*1,266*	235	1,483	**78,753**	*4,721*	277	1,787	**200,525**	*25,245*
194	1,181	**21,954**	*1,314*	236	1,487	**81,051**	*4,866*	278	1,789	**204,944**	*26,932*
195	1,187	**22,688**	*1,339*	237	1,489	**82,647**	*5,031*	279	1,801	**209,420**	*28,802*
196	1,193	**23,528**	*1,388*	238	1,493	**84,106**	*5,209*	280	1,811	**214,672**	*30,918*
197	1,201	**24,295**	*1,420*	239	1,499	**85,756**	*5,395*	281	1,823	**218,990**	*33,330*
198	1,213	**25,085**	*1,460*	240	1,511	**87,469**	*5,558*	282	1,831	**224,272**	*36,167*
199	1,217	**25,717**	*1,506*	241	1,523	**90,333**	*5,745*	283	1,847	**230,486**	*39,373*
200	1,223	**26,680**	*1,561*	242	1,531	**93,284**	*5,906*	284	1,861	**238,339**	*43,162*
201	1,229	**27,569**	*1,600*	243	1,543	**96,279**	*6,095*	285	1,867	**246,127**	*47,571*
202	1,231	**28,242**	*1,651*	244	1,549	**99,150**	*6,291*	286	1,871	**253,236**	*52,756*
203	1,237	**28,917**	*1,698*	245	1,553	**101,723**	*6,510*	287	1,873	**259,946**	*59,252*
204	1,249	**29,871**	*1,748*	246	1,559	**104,560**	*6,707*	288	1,877	**266,707**	*67,509*
205	1,259	**30,707**	*1,800*	247	1,567	**107,041**	*6,914*	289	1,879	**272,114**	*77,932*
206	1,277	**31,555**	*1,850*	248	1,571	**109,795**	*7,142*	290	1,889	**278,512**	*91,869*
207	1,279	**32,633**	*1,911*	249	1,579	**111,912**	*7,364*	291	1,901	**285,821**	*111,253*
208	1,283	**33,494**	*1,986*	250	1,583	**114,508**	*7,624*	292	1,907	**292,121**	*140,561*
209	1,289	**34,556**	*2,043*	251	1,597	**117,842**	*7,904*	293	1,913	**298,404**	*191,550*
210	1,291	**35,744**	*2,109*	252	1,601	**121,087**	*8,176*	294	1,931	**305,779**	*305,779*

Table 7b. Data for $169 \leq s \leq 294$. n^* stands for the number of surviving branches, backtracked from the primes of stage 294. This number will be subject to change for s larger than ≈ 130 by the time the calculation is taken further since many of them will get cancelled out, so this column only gives a momentary picture. Nevertheless, the rate of decrease for larger s may be of interest in itself.

It's also a question of probability to tell when n* should have reached a lower limit, for example n* = 65 at s = 109 seems to have settled after s = 277.

The calculation up to the point given above takes about two months with Pari/GP [5] on a single CPU core of a state-of-the-art PC with the following program, which in the given form starts at s = 29 and keeps track of the numbers as a = $q_{s,1}$ and a memory-friendly vector d consisting of only the consecutive differences between the numbers of a given stage where d_1 = 0 and, for i > 1, $d_i = q_{s,i} - q_{s,i-1}$:

```
{
a=350842542483891235293716663559065020274899073;
d=[0]; \\ a and d can also be read in from previously calculated data

s=0;
b=a;
while(b>1,s++;b\=prime(s));
i=#d;
gettime();
while(1,
        s++;
        p=prime(s);
        o=a*p;
        c=d;
        e=floor(exp(sqrt(3*s)/2)/7);
        d=vector(e);
        m=i;
        i=0;
        for(j=1,m,
                o+=c[j]*p;
                y=vector(p);
                forprime(b=3,p-2,
                        r=b-lift(Mod(o,b));
                        forstep(l=r,p,b,y[l]=1)
                );
                forprime(b=p+2,floor(p^1.9),
                        r=b-lift(Mod(o,b));
                        if(r<p,y[r]=1)
                );
                forstep(k=2,p-1,2,
                        if(!y[k],
                                q=o+k;
                                if(ispseudoprime(q),
                                        i++;
                                        if(i>1,d[i]=q-z,a=q);
                                        z=q
                                )
                        )
                )
        );
        g=floor(gettime()/1000);
        x="[";
        f=floor(g/3600); if(f,x=Str(x,f"h "));
        f=floor(g/60); if(f,x=Str(x,f%60"m "));
        x=Str(x,g%60"s]");
        t=Str("Level "p);
        print(t": "i" possibilities "x);
        t=Str("p#Y "t".txt");
        write(t,"a="a"; d="vecextract(d,Str("1.."i)))
)
}
```

Be sure to set **allocatemem(5*10^7)** or higher when aiming for s = 300 or beyond.