T.2 Table: Computations with a highly signed Dirichlet inverse function

n	**Primes**		**Sqfree**	**PPower**	$\bar{\mathbb{S}}$		$g^{-1}(n)$	$\lambda(n)\,\mathrm{sgn}(g^{-1}(n))$	$\lambda(n)g^{-1}(n)-\widehat{f}_1(n)$	$\lambda(n)g^{-1}(n)-\widehat{f}_2(n)$		$G^{-1}(n)$	$G_{+}^{-1}(n)$	$G_{-}^{-1}(n)$
1	1^1	–	Y	N	N	–	1	1	0	0	–	1	1	0
2	2^1	–	Y	Y	N	–	-2	1	0	0	–	-1	1	-2
3	3^1	–	Y	Y	N	–	-2	1	0	0	–	-3	1	-4
4	2^2	–	N	Y	N	–	2	1	0	-1	–	-1	3	-4
5	5^1	–	Y	Y	N	–	-2	1	0	0	–	-3	3	-6
6	$2^1 3^1$	–	Y	N	N	–	5	1	0	-1	–	2	8	-6
7	7^1	–	Y	Y	N	–	-2	1	0	0	–	0	8	-8
8	2^3	–	N	Y	N	–	-2	1	0	-2	–	-2	8	-10
9	3^2	–	N	Y	N	–	2	1	0	-1	–	0	10	-10
10	$2^1 5^1$	–	Y	N	N	–	5	1	0	-1	–	5	15	-10
11	11^1	–	Y	Y	N	–	-2	1	0	0	–	3	15	-12
12	$2^2 3^1$	–	N	N	Y	–	-7	1	2	-2	–	-4	15	-19
13	13^1	–	Y	Y	N	–	-2	1	0	0	–	-6	15	-21
14	$2^1 7^1$	–	Y	N	N	–	5	1	0	-1	–	-1	20	-21
15	$3^1 5^1$	–	Y	N	N	–	5	1	0	-1	–	4	25	-21
16	2^4	–	N	Y	N	–	2	1	0	-3	–	6	27	-21
17	17^1	–	Y	Y	N	–	-2	1	0	0	–	4	27	-23
18	$2^1 3^2$	–	N	N	Y	–	-7	1	2	-2	–	-3	27	-30
19	19^1	–	Y	Y	N	–	-2	1	0	0	–	-5	27	-32
20	$2^2 5^1$	–	N	N	Y	–	-7	1	2	-2	–	-12	27	-39
21	$3^1 7^1$	–	Y	N	N	–	5	1	0	-1	–	-7	32	-39
22	$2^1 11^1$	–	Y	N	N	–	5	1	0	-1	–	-2	37	-39
23	23^1	–	Y	Y	N	–	-2	1	0	0	–	-4	37	-41
24	$2^3 3^1$	–	N	N	Y	–	9	1	4	-3	–	5	46	-41
25	5^2	–	N	Y	N	–	2	1	0	-1	–	7	48	-41
26	$2^1 13^1$	–	Y	N	N	–	5	1	0	-1	–	12	53	-41
27	3^3	–	N	Y	N	–	-2	1	0	-2	–	10	53	-43
28	$2^2 7^1$	–	N	N	Y	–	-7	1	2	-2	–	3	53	-50
29	29^1	–	Y	Y	N	–	-2	1	0	0	–	1	53	-52
30	$2^1 3^1 5^1$	–	Y	N	N	–	-16	1	0	-4	–	-15	53	-68
31	31^1	–	Y	Y	N	–	-2	1	0	0	–	-17	53	-70
32	2^5	–	N	Y	N	–	-2	1	0	-4	–	-19	53	-72
33	$3^1 11^1$	–	Y	N	N	–	5	1	0	-1	–	-14	58	-72
34	$2^1 17^1$	–	Y	N	N	–	5	1	0	-1	–	-9	63	-72
35	$5^1 7^1$	–	Y	N	N	–	5	1	0	-1	–	-4	68	-72
36	$2^2 3^2$	–	N	N	Y	–	14	1	9	1	–	10	82	-72
37	37^1	–	Y	Y	N	–	-2	1	0	0	–	8	82	-74
38	$2^1 19^1$	–	Y	N	N	–	5	1	0	-1	–	13	87	-74
39	$3^1 13^1$	–	Y	N	N	–	5	1	0	-1	–	18	92	-74
40	$2^3 5^1$	–	N	N	Y	–	9	1	4	-3	–	27	101	-74
41	41^1	–	Y	Y	N	–	-2	1	0	0	–	25	101	-76
42	$2^1 3^1 7^1$	–	Y	N	N	–	-16	1	0	-4	–	9	101	-92
43	43^1	–	Y	Y	N	–	-2	1	0	0	–	7	101	-94
44	$2^2 11^1$	–	N	N	Y	–	-7	1	2	-2	–	0	101	-101
45	$3^2 5^1$	–	N	N	Y	–	-7	1	2	-2	–	-7	101	-108
46	$2^1 23^1$	–	Y	N	N	–	5	1	0	-1	–	-2	106	-108
47	47^1	–	Y	Y	N	–	-2	1	0	0	–	-4	106	-110
48	$2^4 3^1$	–	N	N	Y	–	-11	1	6	-4	–	-15	106	-121
49	7^2	–	N	Y	N	–	2	1	0	-1	–	-13	108	-121
50	$2^1 5^2$	–	N	N	Y	–	-7	1	2	-2	–	-20	108	-128
51	$3^1 17^1$	–	Y	N	N	–	5	1	0	-1	–	-15	113	-128
52	$2^2 13^1$	–	N	N	Y	–	-7	1	2	-2	–	-22	113	-135
53	53^1	–	Y	Y	N	–	-2	1	0	0	–	-24	113	-137
54	$2^1 3^3$	–	N	N	Y	–	9	1	4	-3	–	-15	122	-137
55	$5^1 11^1$	–	Y	N	N	–	5	1	0	-1	–	-10	127	-137
56	$2^3 7^1$	–	N	N	Y	–	9	1	4	-3	–	-1	136	-137

Table T.2: ***Computations of the first several cases of*** $\mathbf{g^{-1}(n) \equiv (\omega+1)^{-1}(n)}$ ***for*** $\mathbf{1 \leq n \leq 56}$***.***
The column labeled `Primes` *provides the prime factorization of each n so that the values of $\omega(n)$ and $\Omega(n)$ are easily extracted. The columns labeled, respectively,* `Sqfree`*,* `PPower` *and $\bar{\mathbb{S}}$ list inclusion of n in the sets of squarefree integers, prime powers, and the set $\bar{\mathbb{S}}$ that denotes the positive integers n which are neither squarefree nor prime powers. The next two columns provide the explicit values of the inverse function $g^{-1}(n)$ and indicate that the sign of this function at n is given by $\lambda(n) = (-1)^{\Omega(n)}$. Then the next two columns show the small-ish magnitude differences between the unsigned magnitude of $g^{-1}(n)$ and the summations $\widehat{f}_1(n) := \sum_{k\geq 0}\binom{\omega(n)}{k}\cdot k!$ and $\widehat{f}_2(n) := \sum_{k\geq 0}\binom{\omega(n)}{k}\cdot \#\{d|n : \omega(d)=k\}$. Finally, the last three columns show the summatory function of $g^{-1}(n)$, $G^{-1}(x) := \sum_{n\leq x} g^{-1}(n)$, borken down into its respective positive and negative components: $G_{+}^{-1}(x) := \sum_{n\leq x} g^{-1}(n)\left[g^{-1}(n)>0\right]_{\delta}$ and $G_{-}^{-1}(x) := \sum_{n\leq x} g^{-1}(n)\left[g^{-1}(n)<0\right]_{\delta}$.*