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Denis Roegel. A reconstruction of Krause's table of factors (1804). [Research Report] 2011. hal-00654433

HAL Id: hal-00654433

<https://inria.hal.science/hal-00654433>

Submitted on 21 Dec 2011

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A reconstruction of Krause's table of factors (1804)

Denis Roegel

20 December 2011

1 Krause (1781–1832)

Karl Christian Friedrich Krause (1781–1832) was a German philosopher. He studied philosophy and mathematics at the University of Jena. He later went to Berlin, Göttingen and Munich. In Göttingen, he was one of Schopenhauer's teachers.

2 Krause's table of factors and primes

One of Krause's first books was his table of factors and primes, published in 1804 [9]. In this book, Krause gave a number of lists in a very compact and unusual way.¹ Here, we will only focus on two of his tables: the table of primes and the table of factors.

In his introduction, Krause mentions the tables of Lambert [10] and Felkel [2, 3, 4, 5], and he understands the objections towards the use of letters for numbers which was favored by Felkel. He nevertheless decided to provide his two short tables, in order to show that letters can be used more conveniently than in Felkel's table. The main tables in Krause's book, however, do not use letters.

Krause wrote that his tables were computed (*neuberechnet*), and presumably not copied, although he certainly compared his tables with earlier ones. He also announced an extension of his table of factors to one million (with only the smallest factors), as well as an extension of the table of primes to two millions. These tables have never been published.

2.1 Krause's table of primes

In this table, Krause gave a list of all primes from 1 to 100000. Each prime is encoded by a letter and the whole table fits on two pages. The first five primes are given explicitly, and they are followed by the list “efghkmnprstwyzbdegilo 1abcdflnpquvxabeghmnop 2eklmoqrvxacdphin 3cefgnptuwbybegilo …”

The first sequence gives the primes up to 97. The symbols are to be read in the following table :

01	03	07	09	11	13	17	19	21	23	27	29	31	33	37	39	41	43	47	49	51	53	57	59	61	63	67	69	71	73	77	79	81	83	87	89	91	93	97	99
a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p

We have therefore the primes 11 (e), 13 (f), 17 (g), etc. The symbols from “a” to “p” can refer to two different numbers, but the sequences above remove any ambiguity. The last symbol of the first sequence, namely “o”, represents 97, and not 33, because the numbers represented by the symbols appear in increasing order.

After 97, we have a new sequence, starting with “1”. This sequence gives all prime numbers between 100 and 200. The first digit is “1” and the two other digits are given by the symbol, using the encoding given above. Each sequence therefore corresponds to an interval of 100 integers. Every ten such sequences, the prefix is given in isolation: 10, 20, etc. Every hundred such sequences, the prefix (or rather the number of thousands) is given in the margin.

One might wonder about the ambiguities which could arise given that some symbols are duplicated in the encoding list. It appears that there is only one ambiguous case in

¹One of the lists (see figure 5), in particular, gives the Farey sequence from $\frac{1}{30}$ to 1, with denominators not exceeding 30. But such lists of fractions were not yet called Farey sequences by then.

the range of the table, namely for the interval 31400 to 31500. In this interval, the first prime is 31469, and the first alphabet is not at all used, causing possible confusion. In that case, Krause wrote the sequence “4cfhl” instead of “4cfhl”, and he drew the attention of the reader to this special case at the end of his list of primes.

In our reconstruction, we have faithfully followed Krause’s scheme and used exactly the same line and page breaks as he did. During the reconstruction, we have found one error in Krause’s table, namely that he gave 16587 and 16593 as prime, the correct values being 16567 and 16573. This was possibly a typographic error at some point, as the two errors seem to be related. There may be other errors, but at least the values at the line breaks should otherwise be correct.

2.2 Krause’s table of factors

In this table, Krause gave the list of all factors for all numbers not divisible by 2, 3, and 5 until 10000. Each number is also encoded by a letter, but the factors are always given explicitly. Moreover, there is now no ambiguity in the symbols, since Krause uses latin and gothical alphabets.

Krause intended to give all factors, and not merely the simple factors. The composite numbers are given with prefixes and almost the same symbols as above. The only difference, apart from the use of a second alphabet, are that the latin “o” is written “φ,” presumably in order to avoid a confusion with the digit “o,” although such a confusion normally does not arise.

01 03 07 09 11 13 17 19 21 23 27 29 31 33 37 39 41 43 47 49 51 53 57 59 61 63 67 69 71 73 77 79 81 83 87 89 91 93 97 99
 a b c d e f g h i k l m n φ p q r s t u v w x y z a b c d e f g h i f l m n o p

The list of composite numbers starts with

u 7.7 f 7.11 m 7.13 - 1 - h 7.17 i 11.11 φ 7.19 s 11.13 z 7.23 c 13.13 f 11.17 - 2 - ...

The first “u” stands for 49, then “f” is for 77, and so on. Hundreds are separated like in the first table, so that the first “h” stands for the number 119.

Each composite number is followed by the list of its simple factors, separated by dots. When a simple factor has a multiplicity greater than 1, it is repeated, as for $9n = 931 = 7 \times 7 \times 19$:

... - 9 - a 17.53 f 11.83 g 7.131 k 13.71 n 7.7.19.133.49 s 23.41 ...

This example also shows that the list of simple factors given in increasing order is followed by the list of composite factors given in decreasing order. 931 has two such composite factors (other than itself), namely 133 and 49.

Although Krause intended to give all factors, the lists of composite factors are often incomplete. One of the last numbers of the table is 9947 and Krause omits the factors 203 and 49. His list of factors should have been instead

t 7.7.7.29.1421.343.203.49

Since Krause forgot a number of composite factors, we have decided not to follow his line breaks in our reconstruction. It should nevertheless be useful, first in order to convey Krause’s scheme, and second in order to provide a tool for checking Krause’s table.

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Tafel der Primzahlen von 1 bis 10000.

Bedeutung der Buchstaben,

0	1	2	3	4	5	6	7	8	9
a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	a	b	c	d
e	f	g	h	i	k	l	m	n	o

1, 2, 3, 5, 7 estehkmpfrwyzhdegilo 1abcdflmpquvxibeghmnp seklmoprxacdhs 3cstegfaptwybegilo
4adhinoginxzabkmp sstbdikrtxacdhs 6acghnftwzef 7adhlqifvxzceko sstdeklmnuwxyatuk gstechmpfrwbdflmo
- 10 - dsthlnouqvzachmn 1bdgkmvwdahns 2afgkmpuyfstg 3achbilzehp 4dsthlnouqvwydhklnp 5cknfwy
bdgls 6acdflmpqzachmn 1bdgkmvwdahns 2afgkmpuyfstg 3achbilzehp 4dsthlnouqvwydhklnp 5cknfwy
abcflpstvbcehkn 3deorqtxvdhlnp 4egkptvbfst 5binqfuvxgpm 6dgiotyxadflhp 7cefhnmuwbfimo 8abhp
fvxgk 9bdgkpxwxaclp - 30 - aehpruzbgil 1dsthlnouqvwydhklnp 2bdgimnuwxydp 3achlmnftydzela 4cfouxzabcmst
zeglnuoqtxydhm 6cigkmpydefmo 7adhlqzbegno 8bihotvawh 9ceglkmnftbd 40 - abchilustagmnp relm
eqwxyf 1aeghmnfrwyzel 5lpquxaemo 6dikrtvxdhlnp 7dstgfhktzbmo 8bipqfuvxgaem 7biknouyifst 8afgnz
dfi 9bdhlnouqvwydhklnp 7dsthlnouqvwydhklnp 8clftwbdglo 9bdnprzghmo 10cstgkmpfrwdfgi 5dstchlnxace
hm 6kstlqrwtxyxl 7aegprugim 8acfllufvzxhdhst 9bkhlywhk - 60 - cstmplvbgim 10inofvscop 11egimtxast 5ast
gkmpfstwyzbeglo 9iluvechm 9lmvtxacdhs 10chpwyezgm 7abdhopzaghnm 8bklmoxrzaclp 9egctuyzbfimo - 7 - afi
11steg 12bdilmyvflm 13csthmpwto 14dinovinm 15egovxsfhkp 16gkmpfrwzysel 17bstgkrlwxyl 18ast
rwbegefj 19achlpuvan - 80 - degwyghln 1aegkltbdm 1adhinopacekm 19gnwafcl 19kmnftbz 20gkmpfaehop 1dst
mrtacflhp 21fsthmpfrwzgj 22bchinpquzabkln 23glnorvadp - 90 - aefcnrfsybm 1bdlopxzehk 24bdilqrxhfm 25bkhpfudfmo
4bsthlnouqvzabgmo 26eioqtvk 27fsthlnouqvzabkln 28bsthlnouqvzabkln 29bsthlnouqvzabkln 30bsthlnouqvzabkln
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496bsthlnouqvzabkln 497bsthlnouqvzabkln 498bsthlnouqvzabkln 499bsthlnouqvzabkln 500bsthlnouqvzabkln
501bsthlnouqvzabkln 502bsthlnouqvzabkln 503bsthlnouqvzabkln 504bsthlnouqvzabkln 505bsthlnouqvzabkln
506bsthlnouqvzabkln 507bsthlnouqvzabkln 508bsthlnouqvzabkln 509bsthln

24

	Groschen	Groschen	Groschen	Pfennige	Pfennige	Pfennige	
1	0.0416..	7	0.2016..	13	0.5416..	19	0.7916..
2	0.083..	8	0.3..	14	0.583..	20	0.83..
3	0.125..	9	0.375..	15	0.625..	21	0.875..
4	0.16..	10	0.416..	16	0.66..	22	0.916..
5	0.2083..	11	0.4583..	17	0.7083..	23	0.9583..
6	0.25..	12	0.5..	18	0.75..	24	1..

Anmerkung. Die Puncte bedeuten, daß die letzte Zahl ins Unendliche fortläuft. (Siehe im Text S. 19 u. 20.)

Figure 2: The second page of Krause's table of primes. (source: Staats- und Universitätsbibliothek Dresden)

II.	III.	IV.	V.	VI.	VII.
a g l n r t x s φ μ a g l n r t a g l n a g l a g a g					
b b f h e i g a l l m c a h w y e d n 34 g f f t c v m s	f i v n w z k r h c i v f h	k i r a m a l m			
b b t w e 5 a g 5 b u n u v e y k m	d t z h a i f w d x o s	f r v t p l v h i f n e t	k 7 r s	m u m a	
b f t x e q a c 5 b t w n f 7 m l	d y b l 7 e 4 o m	f y w a p f m x h f 4 t f	k a r g	m g m d	
b h t f o n a d 61 c b p i g g m	d d y c b t m 8 f s q a	f r 5 l o c m 7 h i f h u i	k g r y	m y m l	
b m u i o g u o 6 d d c a h x n u	d f y r b g m f a g w	f b 5 w n s n b h i f w u f	k l o b	m a m p	
b o u x o g d 9 7 n b q 4 6 h f o i	d m i c a n o g d r e	f d 5 c u t n b h b i o v 5	k r o 4	m i n n	
b f u a 3 x v i 7 f e r o i w p h	d q i p d a n h h 5 f	f h 5 f v n n d h f i r v q	k t o h	m i n b	
b y u f 3 o v m 9 h f f b l w r t	d f i a b x o i h f f r	f o 6 x j d o g h l f w n	k d o t	m o o l	
c a v g y l o n a r g t x m a f o	d w i d b o l i 7 e s	f g 6 u a n o h h m i w g	k f d t	m b a o	
c g v 7 y b o q b t b 7 u o o u r	d y f s d o m i h t f	f u 7 d a r p l h o m x w d	k n a i	m d o t	
c l v b i v s b m i v c p t v 4	e c u v e y w h a u g	f a 6 g b l q n h f m a z x	k q o p	m h o f	
c o n v q i s t i v i 5 v y p b w c	e i u n e y a r l c v v	f c 7 v b y q w h y m f x o	k f a c	m o p x	
c r w t i m 4 v c o f v w q f 3	e l u b f v g s l m w i	g g 7 7 b b q q i a n g y l	k u a d	m q p u	
c o t w y i x 4 5 b x l y r a x o	e r l t f r v m o x i	g i 7 n b y r i g n y b	k y e f	m u p d	
c e x w l u c y d q l p y j r	e v l 5 g o r r n g x y	g n 7 q c s r t i l n b	k e b y	n a q g	
c e d x c t l b e f m a g t u 4	e x l l g a t y n q y p	g n 9 y d i 5 i n n q	l i b n	n e q v	
c o o x r f 4 s c f b m o a n u y	e b o g w s a i h f	g o 9 5 d f f r i r o t	l l b b	n g q 7	
c u x i p g s f g o c b a w y	e b p c b t b o f	g b o d u i t o y	l r c t	n i q n	
c x n u p a t y g u o d c s x o	e s p o b t e s p l	g o 9 6 e 4 u c i o l	l v c 5	n n q q	
c o s v a p r i t b o p r e o y 5	e o w p r i o u q n	g o 9 7 o b i o p c	l x a l	n t r y	
c o s y v r 8 l b y p f d f	e 4 p o i d u q w	g u a i f g u f i o p r	l b c o	n v r 5	
c 7 y v v s u i n q o e b	e g u d f r v l r y	g o 9 a r f v g i u p i	l o d c	n b z o	
c a y y v h s o f a r g f t	e a + g f l v n f r	g r a r f v y i 4 p m	l y d o	n o f r	
c i z n e v g l c f v r g	e c o v v u g h v o t a	g r b g o w u i s q a	l o d r	n y / o	
c l z b w v l i p s i h c	e g v y l b w a i t	g a g i g l w n i s q d	l o d m	n p / i	
c r z t w v m w t x i 6	e i u n l w r u c	g b y h b x a i 7 q s	l a e o	n o / r	
c v z w u f b c u n u t h	e n w q i r u c	g l b h v x f i a q b	l a e g	n c / a	
c r a l a o 6 7 n 4 u m h d	e r w m i r u w r	g n 4 h f y t i i r n	l c e v	n t e s	
c b a o 4 5 7 a v i v l b	e y w w m f o x u g	g r i t t i y v i l r b	l a e y	n a t g	
c o d a c 4 7 b o w m m	e b t w n 5 j a x i	g t c h i i y w i r t	l t f n	n g t y	
c h a f g n 7 d p i w b n i	e f t r n q j c x b	g r b l k o i v r u	l m f 4	n l u b	
c o b x p d 9 8 q n q o s	e h t f o n j d y l	g d b c k i r f l	l t f h	n n u 4	
c o b p u a g h 9 5 p o f	e m a i o g a o y d	g f d r h q i b s o	l o f w	n r u t	
c o b d e r o f r 7 d s q o	e o 4 x o d a g	g m i i l g i d f c	l b g w	n t u h	
d a y v r b r a t x	e j 4 a o p x b i	g q e u m a i h f f	l f g c	n r o l	
d c y v r b w a g r	e y 4 f p o b m	g f r a m x i o t x	l t g f	n d o c	
d g 7 b b q t b y f l	f n e g q l c n	g u d m r i q t p	l m i i	n f r r	
d i y t y c r e c b v e g	f g e 7 a b c q	g y f e m o i w t d	l o h x	n m w i	
d n y q s e t u v c 5 t y	f l p b r v d s	g f y v n g h a u g	l f h a	n q w p	
d t d y u i b g v d v u	f n e q r s d t	h i n n y k c u v	l y h f	n f w a	
d v d 5 w b r v g d y v h	f r s t r m e v	h l b o y k g u 7	m a i g	n w w d	
d b d o w e a m i f o x v	f t s y f i c 5	h r g t m k i u n	m g i 7	n y w f	
d o f e x 5 4 f o r b f o y n	f x s l f e c y	h v g s p o l u u q	m l i b	o c x v	
d g e o g n f o r l g b y i	f d r c t t f b	h x g l p e l t v a	m n i q	o i x n	
d u a i f g f f p o h c	f o r r t 4 g o	h g a o p u h v a	m r k t	o l x b	
d w s r 6 g y n h 4	f n r i u g g f	h o b c t h b v o	m t k y	o r y t	
d s o a 6 r g i 3 o i r	f 4 z m u a h y	h y g o g n k o w r	m x h l	o v y 5	
d 7 o s 7 w b p a y k o	f e g a u r h	h w g r d h y w	m d l c	o x y l	
d a o g 7 l b n a r k t	f 5 g d v r i l	h 4 p n a h k u w i	m o l r	o b y o	
d g o y g b i t h	f 5 s v w i p	h g i v f r k w r	m p l i		

III.

Tafel aller Factoren der durch 2, 3, 5, untheilbaren Zahlen von 1 bis 10000.

Bedeutung der Buchstaben.

0 1 0 3 0 7 0 9 1 1 1 3 1 7 1 9 2 1 2 3 2 7 2 9 3 1 3 3 3 7 3 9 4 1 4 3 4 7 4 9 5 1 5 3 5 7 5 9 6 1 6 3 6 7 6 9 7 1 7 3 7 7 7 9 8 1 8 3 8 7 8 9 9 1 9 3 9 7 9 9
a b c d e f g h i k l m n o p q r f t u v w x y z a b c d e f g h i f l m n o p

u 7 7 f 7 . i i m 7 . 1 3 — h 7 . 1 7 i i l . 1 1 0 7 . 1 9 f 1 1 . 1 3 z 7 . 2 3 c 1 3 . 1 3 f 1 1 . 1 7 — 2 b 7 . 2 9 d 1 1 . 1 9 g 7 . 3 1 i 1 3 . 1 7 t 1 5 . 1 9 w 1 1 . 2 3 y 7 . 3 7
f 7 . 4 1 i 1 7 . 1 7 p 1 3 . 2 3 — 3 a 7 . 4 3 h 1 1 . 2 9 k 1 7 . 1 9 m 7 . 4 7 l 1 1 . 3 1 f 7 . 7 . 4 9 2 1 9 . 1 9 7 . 3 3 f 1 3 . 2 9 m 1 7 . 2 3 — 4 b 1 5 . 3 1 c 1 1 . 3 7 f 7 . 5 0 l 1 .
5 6 l 1 p 1 9 . 2 3 v 1 1 . 4 1 f 7 . 6 7 t 1 1 . 4 3 b 1 3 . 3 7 n 1 7 . 2 9 0 7 . 7 . 1 — 5 e 7 . 7 3 g 1 1 . 4 7 f 1 1 . 3 1 m 2 3 . 2 3 Q 1 3 . 4 1 q 7 . 7 . 1 1 . 7 7 4 9 v 1 9 . 2 6 w 7 . 7 9 y 1 3 . 4 3
b 7 . 8 3 i 1 1 . 5 3 f 1 9 . 3 1 — 6 e 1 3 . 4 7 h 7 . 8 9 m 1 7 . 3 7 p 7 . 7 . 1 3 . 9 1 i 9 . 1 1 . 5 9 b 2 3 . 2 9 b 1 1 . 6 1 g 7 . 9 7 f 1 3 . 5 3 o 1 7 . 4 1 — 7 b 1 9 . 3 7 c 7 . 1 0 f 2 3 .
3 1 . 1 1 . 1 0 3 1 7 . 1 7 . 4 3 p 1 1 . 6 7 u 7 . 1 0 7 a 7 . 1 2 9 b 1 3 . 5 9 g 1 9 . 4 1 b 1 1 . 7 1 m 7 . 1 1 3 n 1 3 . 6 1 p 1 7 . 4 7 — 8 b 1 1 . 7 3 g 1 9 . 4 3 Q 7 . 7 . 1 7 l 1 9 g 1 9 . 2 9 . 2 9 . 7 .
1 1 . 1 1 . 1 2 1 . 7 7 v 2 3 . 3 7 t 1 1 . 7 9 b 1 3 . 6 7 f 1 2 . 2 7 n 1 9 . 4 7 p 2 9 . 3 1 — 9 a 1 7 . 3 3 f 1 1 . 8 3 g 7 . 1 3 . 1 f 1 3 . 7 1 n 1 7 . 1 9 g 1 3 3 . 4 9 f 2 3 . 4 1 u 1 3 . 7 3 y 1 3 . 7 .
1 0 z 3 1 . 3 1 f 7 . 1 3 9 g 1 1 . 8 9 t 2 3 . 4 3 — 1 0 a 7 . 1 1 . 1 3 . 1 4 3 . 9 1 . 7 7 b 1 7 . 5 9 c 1 9 . 3 3 l 1 3 . 7 9 p 1 7 . 6 1 f 1 7 . 1 4 9 x 7 . 1 5 1 f 1 7 . 2 9 2 9 . 3 7 g 1 3 . 8 3 b 2 3 . 4 7 .
1 5 7 — 1 1 e 1 1 . 1 0 1 i 1 9 . 5 9 1 7 . 2 2 l 6 1 . 4 9 Q 1 1 . 1 0 3 q 1 7 . 6 7 r 7 . 1 6 3 t 1 3 . 3 7 x 1 3 . 8 9 y 1 9 . 6 1 t 7 . 1 0 7 f 1 1 . 1 0 7 i 7 . 1 3 . 1 0 6 9 . 9 1 l 2 9 . 4 1 p 1 1 .



Figure 3: The first page of Krause's table of factors. (source: Staats- und Universitätsbibliothek Dresden)

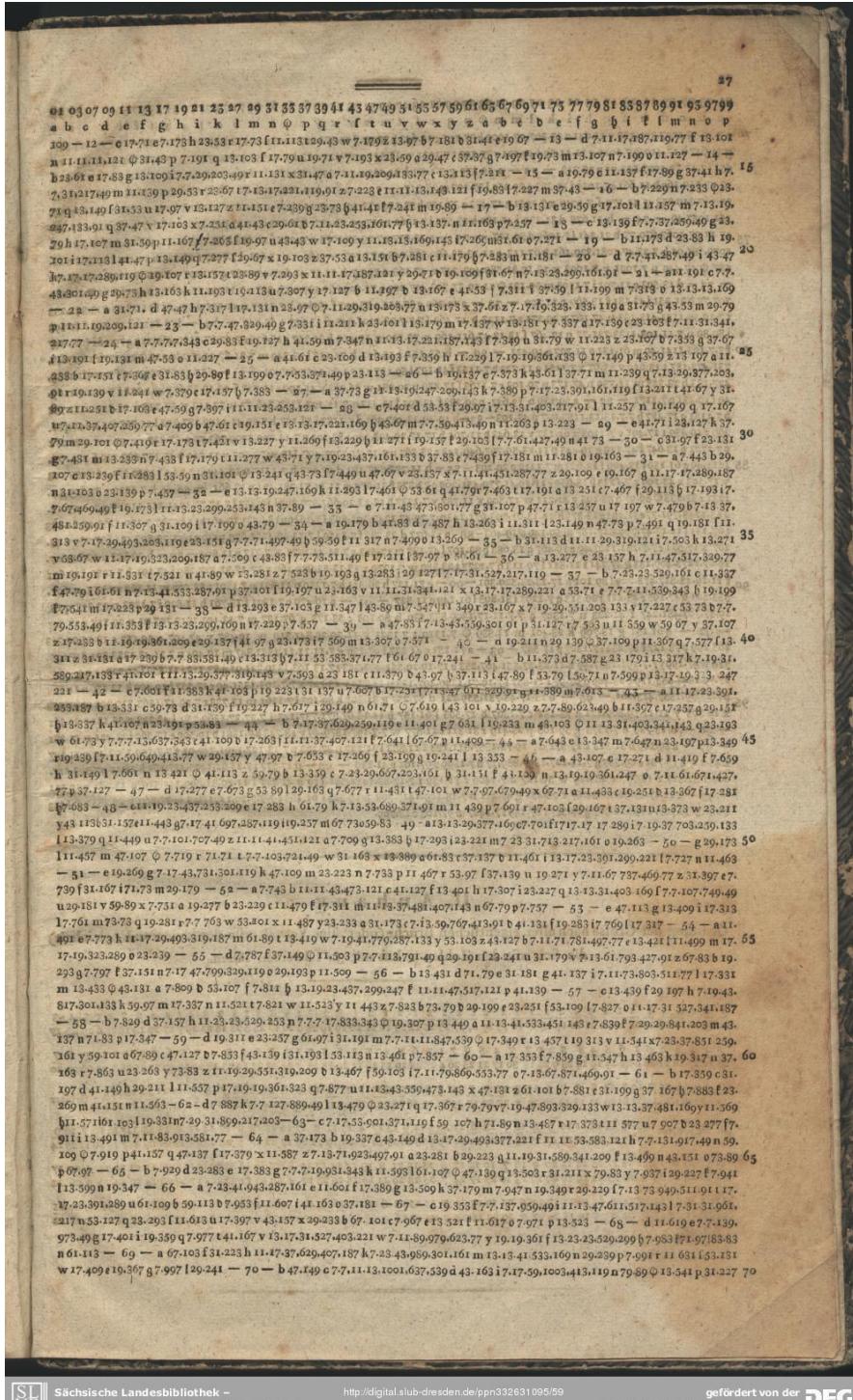


Figure 4: The second page of Krause's table of factors. (source: Staats- und Universitätsbibliothek Dresden)

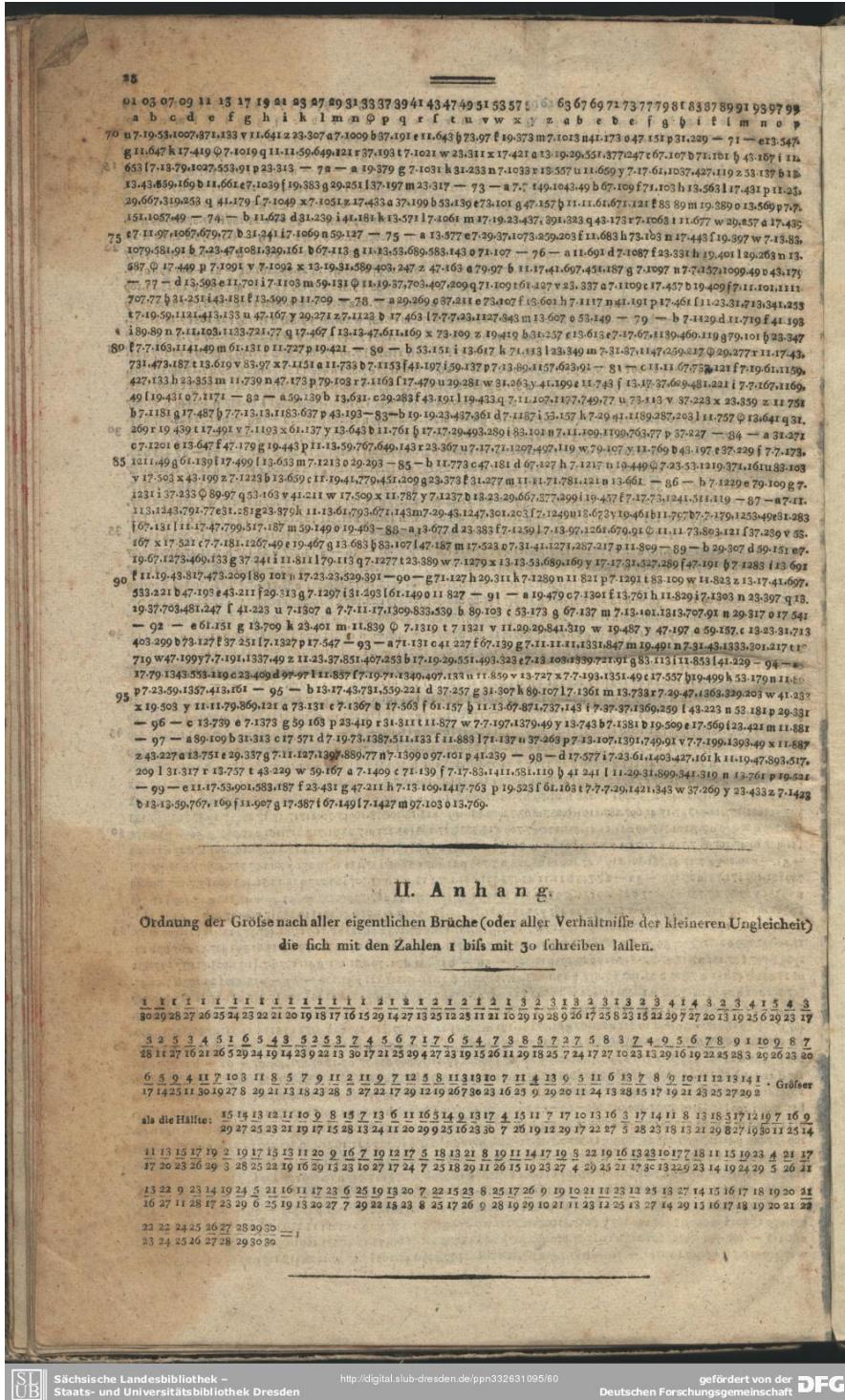


Figure 5: The third page of Krause's table of factors. (source: Staats- und Universitätsbibliothek Dresden)

References

The following list covers the most important references² related to Krause's table. Not all items of this list are mentioned in the text, and the sources which have not been seen are marked so. We have added notes about the contents of the articles in certain cases.

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²**Note on the titles of the works:** Original titles come with many idiosyncrasies and features (line splitting, size, fonts, etc.) which can often not be reproduced in a list of references. It has therefore seemed pointless to capitalize works according to conventions which not only have no relation with the original work, but also do not restore the title entirely. In the following list of references, most title words (except in German) will therefore be left uncapitalized. The names of the authors have also been homogenized and initials expanded, as much as possible.

The reader should keep in mind that this list is not meant as a facsimile of the original works. The original style information could no doubt have been added as a note, but we have not done it here.

- [10] Johann Heinrich Lambert. *Zusätze zu den Logarithmischen und Trigonometrischen Tabellen zur Erleichterung und Abkürzung der bey Anwendung der Mathematik vorfallenden Berechnungen*. Berlin: Haude und Spener, 1770. [the table of factors was reconstructed in [14]; [11] is a Latin translation of this book]
- [11] Johann Heinrich Lambert and Anton Felkel. *Supplementa tabularum logarithmicarum et trigonometricarum*. Lisbon, 1798. [Latin translation of [10]; the table of factors was reconstructed in [13]]
- [12] Denis Roegel. A reconstruction of Felkel's tables of primes and factors (1776). Technical report, LORIA, 2011. [This is a reconstruction and an extension of Felkel's tables [2, 3, 4, 5].]
- [13] Denis Roegel. A reconstruction of Lambert and Felkel's table of factors (1798). Technical report, LORIA, Nancy, 2011. [This is a reconstruction of the table of factors in [11].]
- [14] Denis Roegel. A reconstruction of Lambert's table of factors (1770). Technical report, LORIA, Nancy, 2011. [This is a reconstruction of the table of factors in [10].]
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Krause's table of factors (1804) (reconstruction, D. Roegel, 2011)

01 03 07 09 11 13 17 19 21 23 27 29 31 33 37 39 41 43 47 49 51 53 57 59 61 63 67 69 71 73 77 79 81 83 87 89 91 93 97 99
a b c d e f g h i k l m n o p q r s t u v w x y z a b c d e f g h i k l m n o p

1, 2, 3, 5, 7 efgkmnprstwyzbdegilo 1abedflnpquvxabeghmnop 2eklmoqrvxacdflhin 3cefgnptuwybegilo
 4adhinoqsuxzabgkmp 5bdikrtxacdfknp 6acfghnrstwyzefim 7adhloqsvxzceko 8deiklmqwxyafhik 9cehmprtwbdflimo
 - 10 - dfhinoquvzackmno 1bdgkmvwadhn 2afgkmnpuyfgilm 3abchilzbehp 4dklmoqtwwydhiklnp 5eknsuwy
 bdgio 6acdflphxabcnop 7dikortwyfkl 8aeakntzbdefgl 9acfounevgnop - 20 - beglmqwachiklp 1efmnprswzg
 2bcfipqsvbcehkn 3deoqrvtxdflnp 4egkprtybef 5binqsuvxgmn 6dgiotxyadflklnp 7cefhmnrubflmo 8abhop
 svxzgko 9bdglqwxacd - 30 - aehkpruzbgil 1dhipabchkm 2bdgimvwxydp 3achkmnstyzdclm 4cfouxzabcnp
 5eglmqrqtxydhin 6cfgknppsydefmo 7adhloqzbcgno 8bikotvwafhl 9ceghkmnstbl - 40 - abcfluvxegmnp 1elm
 oqxxyf 2aeghmnrsawydeilo 3lpquxaemo 4dikrtvxahin 5cfgkutzbimo 6bipqsvuvaegm 7bikmovyiklnp 8afgnz
 dfl 9bdhnopsvxbcekn - 50 - bdeikqvyfhkp 1acfhtwbdl 2dlnopzegho 3bdktovhkn 4cfgnprsdflgi 5abchlnxace
 hm 6kqrvtwxyciln 7aegprsugim 8acfilsuvxzbcgno 9bklqwhk - 60 - cempstwbeglm 1afinosvaeop 2begimtxacdflkp 3ae
 gkmpswyzbeglo 4iluvcehm 5imtvwacdfhp 6chpwyzeglm 7abdhopzaghn 8bklmorxacdip 9cegtuyzbdflimo - 70 - afh
 lqxsrg 1bdilmvfyfkn 2cefhpstwio 3cdinouvcn 4egovxyfhklnp 5egkmprtuyzefilm 6bcqisucehkm 7bgkrlwxyl 8gkm
 rwbefgi 9achlopuvan - 80 - degqwyckln 1aegkztbdgm 2dhinopsacekmno 3egmwacfl 4hkmnstzb 5afilpqsaehop 6dkl
 mrtacfhlmp 7cfhnprtzwzgi 8bchinpquzabkn 9kmorvacdp - 90 - acefmrsuybm 1bdlopvxzelhkp 2bdilqrxfhin 3ehkprsdflmo
 4bfhlinopqzabegmo 5eioqtvk 6afhkmnsuzflgo 7hioqsubchkm 8begmoqvxydik 9ackmnrbue - 100 - cdppqzbcgmnnp 1beoq 10
 rvyacfhn 2ekstwybde 3abfinopsxcmp 4lmowxyafkp 5afmnyblo 6acflnqvxabkm 7dekmqowwdhlp 8nptwyzbiln 9bdp
 quxegkn - 110 - bltxyedikn 1fghnuzydefo 2fqsvxsegkp 3egimvwcinp 4ekpstbdilm 5bhluvvgno 6gioxflp 7aghnsfgil
 8acfilnoqabko 9bdkloqrwyedhk - 120 - ceprssudeo 1acdflhsuxzao 2belqrvwacfl 3akmstefgm 4adfiopvxegkmo 5beglqrt
 wcfi 6aefhprtwydlo 7bfiqxsahamp 8dikmrwlnp 9ceghkrwybegi - 130 - abcdopsuanp 1bdiltvyyadflk 2ghmruybmo 3dfn
 pqbhop 4egirvxacfkp 5fkpwbflmo 6flhoucghkmno 7deikmvxyahlp 8cmnryefgi 9abcfinabop - 140 - demovxdhik 1csu
 wyefo 2cisuvhn 3biklrlckl 4acehknptuzgl 5bhopsuvxzamm 6ilmqwxcp 7fgknprtwybdgio 8filnsvbcgkmo 9kmqtvxc
 i - 150 - fgnwzefim 1acinpquzecknp 2gloryacdfklnp 3cfhmnuyzefim 4aflqsvzbeno 5elrvychi 6achmrstuzbdgi 7lnopquzb
 ekmo 8bdgkyfhk 9acfkhkpydem - 160 - acozxabcekm 1belqrikln 2gkmnuwbe 3ahoquzach 4egilotvvhk 5hmtwzbe
 6bchnouvzxemnp 7bmrtyak 8ekmnsdgel 9abilnpsaghkn - 170 - eilmortwfnp 1cgkpybilm 2bcdnqxmnp 3gilorvyfikln
 4aghnsubdfilm 5dhqvceghop 6dklxchi 7cfmputzilm 8clpqvahm 9bdeikmxydfhkl - 180 - frstuyzflo 1hlnosuchmp
 2egkmovwxckl 3acefmrwbdgo 4afloqsvxzhn 5bgikqrwi 6gpzdgm 7afhnsuxekno 8bqycp 9efgftyeg - 190 - adfnpvce
 ghk 1iqrxa 2cefhpuybel 3adhoeghkm 4bgiklmortxacdfl 5acnrswydfl 6bdzhk 7dglqvwyafn 8afhrswzblm 9fl
 puzaegmno - 200 - eikmtvadl 1acfkmstuzefi 2ahnouzcko 3klortwxychlnp 4cenrsfgi 5cdiosuvanp 6elqrahn 7cghnstuw 20
 ydel 8cduxegkop 9bimqtyahi - 210 - aefghknyzbl 1aciqsuxacgkmn 2eiltcfi 3fghkrtfgimo 4achobhkmnp 5bgikmxyacfklnp
 6aefgtuzei 7aflpqvxbe 8bgiqrvyadhn 9empszfmo - 220 - bflnpqvvabegmn 1dekmotwxydln 2mtydefgim 3bcsubchmo
 4dortwchi 5aenrsubde 6fhipqsvcmop 7dgilqrvfcfik 8cegyzdf 9acipszaen - 230 - beglmqrwxyadflk 1gnsybelo 2abdl
 vcmno 3eiloqxcdf 4gntyeo 5dnpqvxzabhnp 6bdklmoacdfk 7hrstwzbel 8afhlnoxcegknp 9degmxdfhn - 240 - achkmsu
 zdflmo 1bcdflpvcgho 2bkmqtvh 3gmpydegn 4cfhiqscbeh 5dglotvdn 6eknydfimo 7douabhn 8dirtyfl 9cghksbwdf
 gl - 250 - fnopxeko 1egiltwacil 2hmpstwz 3abcdiqsuxbem 4dekqtwxacd 5kprzfl 6abdioqszbegn 7bgortyadnp 8ahrt
 ubel 9bfhnoqsvchop - 260 - bgimrwip 1cefhrwzdf 2bdllpuvzbano 3dgiqtxdknp 4cgknpuyglo 5afqzemo 6lortchiknp
 7aefgkmpyfl 8afiqozaghmn 9bilstwvwyhkn - 270 - egnsybzefm 1bcdlsgmo 2eqrwydfhlp 3mpzbo 4cdlnpxughk 5dlmq
 rvhi 6egntwelmo 7aopqsvavabegmnp 8bdgkltvin 9aghrstwzbi - 280 - ahlnvxchkop 1dekvahi 2aehmfgilo 3cdhuvkn 4b
 demoqtafnp 5fgpruydegmo 6bchilnsuxzacko 7bekmvwydln 8cfgpsybdg 9adilouzg - 290 - dgikloyaf 1akmnpwtbegm 2
 acdinsvcko 3beloqtaiklp 4aekmpswei 5alnpbcehkp 6emoracdi 7gkrwyzl 8bhopvabegh 9giltil - 300 - efmytdlmo 1bdfl
 opqzchko 2bekrwycdn 3cfhkrtblm 4blnubcmno 5dgmqwxyn 6npsuzdflo 7bcflxaeh 8bdgmqrwvycdhn 9enprudf 30
 - 310 - fhoqvacghm 1ikqtvwyfihln 2hknptuwybdf 3chilopxgkmno 4cfhl 5efgnrstbei 6aclsuxabkp 7iklmrvcdnp 8gtuyei
 m 9cxaehm - 320 - bdlmvxyacflp 1ghrsyeilm 2bfopvxzop 3bdiklrwyacdfh 4aefkmrsbgmo 5bcnoprzacegk 6bdeiotwkn
 7cfghudgilo 8abnoqsk 9degoqrxdiknp - 330 - fkmpuwdem 1cfhuvzghmp 2bektkl 3aegmnstuwyfm 4bdflxzgk 5bi
 motacfhlk 6afghkmprtg 7bfiquvxbce 8delmvxadln 9eknprzbo - 340 - hnoqxz 1klmrtxydi 2efgnwyzbeio 3abfhlpv
 zbc 4bimqxcdf 5aefhpsuilm 6bcfnuvbegkn 7bimqtxyah 8chrstudfio 9fhquzah - 350 - klvwychilp 1cegmrwuyd 2a
 ilvxbghm 3egklqwahn 4achkptuzm 5cdilnopscemno 6bgdf 7mnntwydo 8abdnpqvacgop 9ekovacfinp - 360 - cefgpzbeio
 1cdnpvzkm 2dgmrvacfn 3cfhrlseweil 40vxbcegno 5klmrvyadikp 6cmpswdfimo 7dfiquzbghkmn 8diotxdflp 9afhkmn
 stego - 370 - bfliquxzko 1gkqydhlp 2agkswe 3cdflpinqxazago 4dkrtailn 5acegmpztubdeglm 6chosuxamnp 7gthip 8efn
 twzdglo 9cvxabkmno - 380 - eqtwci 1fhuwbflo 2ahnpqzehkp 3bgilmovdfn 4ntuwy 5asxzb 6bdemqvwcdfnp 7cefk
 mptubim 8bioqvzbem 9bgikowydfn - 390 - hkrstglo 1bcfhoqzahmp 2dglmoqrvn 3afgkrsybdie 4dhqsvzp 5bdeirvach
 6chknybdg 7bdhlouzcgmp 8ilmqrtxacf 9ampwdgil - 400 - dfnpqaknp 1eklmvwaefln 2fnprwfil 3svxzk 4klmoydiknp
 5chmnsyfimo 6dlpqnop 7dqyyadk 8afhkmrtuwbgio 9bloquzen - 410 - egkqtvxfl 1fgnrsuzfl 2abflnosxachp 3orvxh
 klp 4efswbgm 5cfhliqsgno 6bdeglrvychk 7hmpydzf 8adfsuvagkno 9belrtwxychip - 420 - fghkszdeil 1anqxcghkno 2d
 iklqzqz 3cknpuyegmo 4bcdopsvxzabekmp 5doxdclf 6ersubfilo 7abdhlpsvbekno 8imqrwyap 9akmpswzbg - 430 - bfh
 puvaln 1bgovyfl 2ackpzdim 3fhnmop 4belrvxhkp 5grsefmo 6cdflouzvcm 7egiwfyhikln 8awblm 9fosvzacekmo - 440 -
 gilmrwydkl 1aehkmnydgl 2abciuxabceghn 3vxhdil 4guwimo 5achnopsuagk 6gikortvxikp 7aemrwdeflo 8dhqsvbgn
 9dglqwyadik - 450 - cfwzfi 1hilnpqzghmo 20tyahl 3cghmrszfl 4bfloqhm 5bkcorwxcklp 6fnrybefmo 7cpvxabg
 8giklorwackn 9suwydgl - 460 - iluvzemnp 1bortwdhikp 2hmpzdeg 3acdflpuvhp 4eqrtvxdflp 5cekuybelm 6ahoqsuagh
 km 7bkltvxcd 8ceghmnwzbf 9ahoxno - 470 - grvxykn 1ehkmpstuzl 2cipvcgkno 3bdgqvwahkl 4cghnrymo 5acflosa
 chmp 6dkmzwxyhp 7aefgprsf 8cdhpsxch 9begqtvacfl - 480 - gkmuegm 1dhinxagkno 2iptydhp 3efprwdio 4c
 dfpuaeghkm 5kloqradln 6ehktuzefg 7novxzbhkp 8dgiktxyedil 9ctwelm - 490 - bdhnopsxch 1bdgikqzcdflp 2acek

- 50 wzfgo 3cnoqabcmn 4degmovyafhp 5kmnptuyo 6bfloqabcho 7elqrxtikl 8aceknswdfm 9hilpqsxmn - 500 - ikotvwcf
kn 1aehkmtwyf 2cilnzaekm 3eimoryafik 4egkryzo 5bflqsuvhkmnp 6ltvdi 7ckrwbefl 8ioquxbemn 9dkmvxcdln
- 510 - anstyzd 1dnopvxcnop 2bgmqrxai 3cmrstuzi 4cfhilnpquzeghk 5begiqvafhnp 6cfnptyegim 7fhiubcko 8bglmqw
yednp 9cfmrudefm - 520 - dilvxbch 1biltwafhil 2akpuwyblm 3afizacgkm 40wxl 5aegmrswzbdgi 6dlnqbemo 7deilot
xci 8cfgpyzgil 9ahpvhxabehp - 530 - bgtvcfkl 1afgmtuzdelo 2anoqbcghp 3dklyfh 4acehprwg 5beluvcmno 6degk
moqwxhnp 7ghnyefim 8fhnxzhkmop 9gklyqykn - 540 - aefpuym 1aioqvabhn 2gvcfkn 3ehkntzbdf 4abdfipsucn
op 5bgiqrtayafhi 6agkmntbeg 7dfilvbegkp 8movecfh 9cgchruyegi - 550 - adiuvxzeg 1bdgltad 2acfghmsuym 3fnopqse
hp 4eqrxck 5aemrtgl 6bdhinoqzabehmo 7egioaknp 8cfglkmpsdul 9abilnoubko - 560 - bdqrwhknp 1afknubdgo 2cdp
quabcp 3eoycfin 4agnpswbefgl 5abdhlscmop 6emoyadhk 7aefnptbegi 8cdflsxemno 9deikmrvxailnp - 570 - prtyefl
o 1chnqsuaegmn 2bikrvycdk 3amntubeilo 4flxbkn 5blmxydkn 6apruwbglo 7dfhlvpvehkmn 8bdmqtwyhp 9agkstefm
- 580 - flnsuxzbep 1demtvwcdlnp 2cegmnpd 3dfipabcmn 4beglqrwwfh 5epsubeg 6abfnxzgknp 7elorxadkl 8nlo 9acd
fipsabgmo - 590 - deikmvwaefin 1cfhkruybio 2cdhioqsaeh 3orvxycfknp 4cghrstwbdeo 5dfqxzbh 6egilmvyacdnp 7c
60 kmstwdgmo 8doagk 9imvxhd - 600 - fgmprfilm 1abcloquzbc 2dgkvxydl 3gnpsweio 4flsuxno 5dilql 6acegknptuyz
gl 7bhlopzxzaegn 8eyicklp 9afghkpswz - 610 - aclnsvxmp 1imrvwc 2eknwzimo 3noqxsagh 4bdgracdikn 5cehstwyzi 6b
dflnpsvxbbehk 7bgkmvxh 8flpszdg 9dlouzbghkm - 620 - begqtxwdhp 1hmnprrsdlm 2acfhoeop 3bekltvi 4agkybefio 5a
coquahmo 6bgloqwyik 7aknswzem 8ahlvzceo 9bilmqcdhikl - 630 - mnybego 1bflnugop 2ertfhp 3efgnptwzbflmo
4dhiqsabeknp 5iloryfklp 6acegmtuybdlmo 7bdhlszehnp 8bdkqrwx 9acfmufo - 640 - cfhopabhm 1dkvwdxkl 2gkn
pdgi 3abhloehp 4boqvwl 5fwbfm 6adfilozabgn 7dgtahin 8eguwdfgm 9ahilpvc - 650 - belmowadlp 1aehkmtbde
gi 2bfqxbckn 3dklxwdhn 4cfhkptugo 5hipqsvxaghk 6dgmotvxfkp 7acfghmnzf 8dlnpqsvbhp 9ilmvxahin - 660 - m
prtbdil 1bcdpzegm 2iqln 3apstyzei 4bfduxabmp 5dkmorcldkn 6agmswo 7afioquvamo 8dirvwafil 9hknstuyef
- 670 - biosuxzeg 1bimqrwxchkl 2efghntzdel 3cqsucmp 4deilmotwfhlnp 5eknptybf 6achnvgp 7dkorvxyafil 8achms
wbim 9alnoqxszbkgm - 680 - krwydkp 1efrtzd 2cdfhlqzgh 3emvdlp 4pstuefilm 5acinqsbh 6eoqycikp 7efmpsudfm
8fhiaghmop 9bdgltan - 690 - aehmnzbe 1dhlsuvamno 2bioqtxya 3fgprdgil 4ablnqxabehmnop 5qxn 6kwzfmo 7dpqz
70 abg 8dilmotxyfp 9emnrymo - 700 - abdhqvzbpg 1egikqrxafhp 2ackmprudlo 3dfilveghn 4kmqvxyhkl 5acmpudeil 6c
hilqxabk 7dgmwcin 8krswbfgm 9afhipuvxeghmp - 710 - ekqychl 1hmstwbdm 2dopuxzakn 3glmoqrtywyaklp 4ef
hmpswdei 5blpuvacno 6otadnp 7cefhrzfl 8cdipsuzbghk 9dgortadike - 720 - hnsweflm 1abdqzbce 2eiklmvwcdfk
3cfprwbg 4inzbchno 5botvyf 6fgkstuzdegl 7achloqabo 8gkycdil 9aceknpuwyefo - 730 - dfhpqszagm 1ilorhl 2psyf
m 3bdlnvzacgk 4giowydfi 5gkmtwzdil 6cdfpsveghnp 7dilvxdi 8hktuyfb 9cqsvzep - 740 - giltvdfnp 1ansuzybflo
2abdhnxgkno 3egkwxafhi 4efhrwdl 5cdilnvzbeko 6dekwp 7cfghmntydzgo 8ilnsxzckmo 9bkmory - 750 - efgmprgi
1douzbchn 2degkqwl 3ckmptwbfl 4abenpg 5beiloqrwxdfl 6eghmrwygil 7bcdinsbehkno 8iowci 9fnprbgilm
- 760 - abnqghmp 1bkmtxya 2cfnsuwyil 3bosbcgk 4bikradhkn 5cehprszgo 6bcnuvbeg 7gowxdh 8ahmmptdei 9cfhs
uzam - 770 - bgkmtchn 1aprwbdm 2aefpsuzabcm 3gkqtvyci 4ghntdfgl 5dfilsuvxacekm 6egirtyhkl 7efhknstze
io 8afquabnp 9movcfip - 780 - cgnruyg 1aipqxaegmn 2bmoryfi 3acegrtb 4alpqbkg 5degqrwcdfl 6cksuwmo 7cfip
ghkmo 8bdkqwxfl 9ahmrfl - 790 - nqsak 1beoqtvwyhkn 2amnryegi 3adhopuxbgnop 4eklovhn 5npuzygl 6adfil
80 noxckmnop 7xcf 8aefgkrmrstbel 9abcqsbegkop - 800 - iqvd 1certuwbefm 2cdinoqvaegk 3dgmrtack 4cmtudelm 5fl
pxbp 6beilmvxcdflik 7afptuzfl 8bdhnouao 9degbkmowal - 810 - afghknrstdfio 1ahnxaehop 2bkoqhnp 3cnsuwyde
4adiqxa 5dglotvwyac 6ehmptubdf 7abclpucep 8gqtwcip 9ahmnpwsbde - 820 - bcdflnpqvb 1mqrwadi 2cghknp
zbg 3acquvzekn 4ixacdiknp 5cmnuyzbdm 6adfhovxp 7iklmxyahk 8efptilm 9bfqaho - 830 - bdktyadfl 1agpf 2bc
hilnosxbcep 3eqrxilp 4acgknpusuydfo 5pxzagmo 6dgiqrwal 7aghpzefm 8fosxcm 9beioqcik - 840 - egtwyzbl 1ilnpsa
ghmp 2eikmqtap 3cfghatufl 4acinpsuxabhp 5bdikovyl 6mnuyemo 7afhnpvzkn 8delxyed 9fhtzbfgm - 850 - dilpu
zhkmn 1bdioty whole 2afkmpstyo 3bfnozach 4elmqtvwck 5fgknudfo 6achilqszbcm 7begovhn 8ghmnpstw 9bdnomp
- 860 - egimcfi 1efgnpszdg 2adqnsuxackm 3ekrvxecdhl 4fkrwzbfm 5adnoqzegk 6lmfl 7ehmswbd 8fpsvzc 9k
lmqyvchn - 870 - efprudi 1bchiouvghk 2eikvwxhnp 3fgkpyi 4beilosehm 5degkqrtwxyikl 6fkmnrsudgimo 7ahiqsvb
no 8beowcfhk 9egnsyze - 880 - abchpcgn 1gmcf 2ekpqryl 3ailpqgo 4eklacdn 5fktlm 6cdsvxzab 7imrtdlnp 8ace
fghswzbeio 9bhpvcno - 890 - bdgirvxcid 1acfhlkpw 2bdflnpzcen 3bgmadhkn 4fgnsuyfm 5afhiloabmop 6belowxy
90 cdhl 7wybgio 8dhhioqubmop 9dkgkqyafil - 900 - aceghknwybdel 1clilaekmop 2bglqtdahl 3fwydego 4abcpqcehp 5ekl
motip 6ghnrtfygo 7bdnukn 8bikortak 9acegntdflo - 910 - dhoghop 1ilmqrwywainp 2mpsuwimo 3bdnbcehkn 4ekow
xyanp 5fmrdefim 6inqem 7beowxdh 8acefkprbe 9diqsvxzbco - 920 - bdorvfi 1cehswefl 2bphilopsvo 3egotwxacflik
p 4afhnyzbgl 5bcvxbchn 6klqrxtcdhimp 7cgkpzbgl 8adinuxzabnp 9ilrvxykn - 930 - atwyfilo 1bfnoqvcgk 2mqr
wxahik 3chkmpdfi 4chlaghkmno 5bkmwxyah 6acmpi 7abhqzak 8delvdkl 9afkprubdg - 940 - cdouxagp 1degi
vwc 2achmwzem 3cdilnsuvgop 4iloqrtaf 5fmrstyze 6bfuvkn 7dkltdfhl 8ehkprtuel 9bcouvznp - 950 - bdiladikln
1acenswflm 2bfhnoqzbegk 3eglqcin 4afhmrzsbdgi 5clnqzcho 6bgimov 7acfknptel 8abflxehm 9egkmtxydkl
- 960 - afgswygo 1pxubghp 2eikoyachln 3kmnpwf 4ahnsvxzcgk 5glwxhkl 6aszbdo 7bnpquxaegk 8ikltvxn 9cenw
yeglo - 970 - abcje 1bglvxycdfl 2fnryi 3ablbcgk 4kmrwyap 5aektuwzdfi 6cdfluvek 7emdfkl 8fmrstuyzdg 9h
lnszbek - 980 - degrtxh 1akmsg 2cfilvxcop 3giklcfkl 4cehmwsybegm 5choszaeo 6ilqracl 7efgmnpeg 8acdpubcekno
p 9delmqtwahnp - 990 - fgkrwgl 1bdhnopquehm 2korvxyfl 3gtubdfmo 4adnqcko 5klmvyadfh 6ceksbzgl 7cdfhioz
bkn 8dgkmoqydfh 9ackmzdlm.

Krause's table of factors (1804) (reconstruction, D. Roegel, 2011)

01	03	07	09	11	13	17	19	21	23	27	29	31	33	37	39	41	43	47	49	51	53	57	59	61	63	67	69	71	73	77	79	81	83	87	89	91	93	97	99
a	b	c	d	e	f	g	h	i	k	l	m	n	φ	p	q	r	s	t	u	v	w	x	y	z	α	β	γ	δ	ε	ƒ	g	h	i	f	l	m	n	o	p
u	7.7	f	7.11	m	7.13	-	1	-	h	7.17	i	11.11	φ	7.19	s	11.13	z	7.23	c	13.13	f	11.17	-	2	-	b	7.29	d	11.19	g	7.31	i	13.17	t	13.19				
w	11.23	y	7.37	f	7.41	l	17.17	p	13.23	-	3	-	a	7.43	h	11.29	k	17.19	m	7.47	r	11.31	s	7.7	7.49	z	19.19	δ	7.53	f	13.29	m	17.23	-	4				
b	13.31	c	11.37	f	7.59	l	7.61	p	19.23	v	11.41	c	7.67	ε	11.43	β	13.37	l	17.29	o	7.71	-	5	-	e	7.73	g	11.47	l	17.31	m	23.23	φ	13.41	5				
q	7.7	11	.77	49	v	19.29	w	7.79	y	13.43	β	7.83	i	11.53	l	19.31	-	6	-	e	13.47	k	7.89	m	17.37	p	7.7	13.91	49	u	11.59	β	23.29						
δ	11.61	g	7.97	l	13.53	o	17.41	-	7	-	b	19.37	c	7.101	f	23.31	i	7.103	n	17.43	p	11.67	u	7.107	α	7.109	β	13.59	g	19.41	β	11.71							
m	7.113	n	13.61	p	17.47	-	8	-	b	11.73	g	19.43	φ	7.7	.17.119	49	r	29.29	t	7.11	.11.121	.77	v	23.37	c	11.79	δ	13.67	l	7.127	n	19.47							
p	29.31	-	9	-	a	17.53	f	11.83	g	7.131	k	13.71	n	7.7	.19.133	49	s	23.41	u	13.73	y	7.137	z	31.31	ε	7.139	g	11.89	l	23.43	-	10							
a	7.11	.13.143	.91	.77	b	17.59	c	19.53	l	13.79	p	17.61	s	7.149	x	7.151	β	11.97	ε	29.37	g	13.83	β	23.47	p	7.157	-	11	-	e	11.101								
i	19.59	l	7.7	.23.161	49	φ	11.103	q	17.67	r	7.163	t	31.37	x	13.89	y	19.61	c	7.167	f	11.107	l	7.13	.13.169	91	l	29.41	p	11.109										
-	12	-	c	17.71	e	7.173	h	23.53	r	17.73	s	11.113	t	29.43	w	7.179	z	13.97	β	7.181	δ	31.41	ε	19.67	-	13	-	d	7.11	.17.187	.119	.77							
f	13.101	n	11.11	.11.121	φ	31.43	p	7.191	q	13.103	s	17.79	u	19.71	v	7.193	x	23.59	α	29.47	c	37.37	g	7.197	f	19.73	m	13.107											
n	7.199	o	11.127	-	14	-	b	23.61	e	17.83	g	13.109	i	7.7	.29.203	49	r	11.131	x	31.47	α	7.11	.19.209	.133	77	c	13.113	f	7.211	-	15								
a	19.79	c	11.137	f	17.89	g	37.41	h	7.7	.31.217	49	m	11.139	p	29.53	r	23.67	t	7.13	.17.221	.119	91	z	7.223	ε	11.11	.13.143	.121											
f	19.83	l	7.227	m	37.43	-	16	-	b	7.229	n	7.233	φ	23.71	q	11.149	s	31.53	u	17.97	v	13.127	z	11.151	ε	7.239	g	23.73	β	41.41									
f	7.241	m	19.89	-	17	-	b	13.131	e	29.59	g	17.101	l	11.157	m	7.13	.19.247	.133	91	q	37.47	v	17.103	x	7.251	α	41.43	c	29.61										
δ	7.11	.23.253	.161	.77	β	13.137	n	11.163	p	7.257	-	18	-	c	13.139	f	7.7	.37.259	.49	g	23.79	h	17.107	m	31.59	p	11.167	r	7.263										
s	19.97	u	43.43	w	17.109	y	11.13	.13.169	.143	i	7.269	m	31.61	o	7.271	-	19	-	b	11.173	d	23.83	h	19.101	i	17.113	l	41.47											
p	13.149	q	7.277	s	29.67	x	19.103	z	37.53	α	13.151	β	7.281	c	11.179	β	7.283	m	11.181	-	20	-	d	7.7	.41.287	.49	i	43.47											
k	7.17	.17.289	.119	φ	19.107	r	13.157	t	23.89	v	7.293	x	11.11	.17.187	.121	y	29.71	δ	19.109	f	31.67	n	7.13	.23.299	.161	91													
-	21	-	a	11.191	c	7.7	.43.301	.49	g	29.73	h	13.163	k	11.193	t	19.113	u	7.307	y	17.127	β	11.197	δ	13.167	ε	41.53	f	7.311											
i	37.59	l	11.199	m	7.313	o	13.13	.13.169	-	22	-	a	31.71	d	47.47	h	7.317	l	17.131	n	23.97	φ	7.11	.29.319	.203	77	u	13.173											
x	37.61	z	7.17	.19.323	.133	.119	α	31.73	g	43.53	m	29.79	p	11.11	.19.209	.121	-	23	-	b	7.7	.47.329	.49	g	7.331	i	11.211	k	23.101										
l	13.179	m	17.137	w	13.181	y	7.337	α	17.139	c	23.103	f	7.11	.31.341	.217	.77	-	24	-	a	7.7	.7	.343	.49	c	29.83	f	19.127	h	41.59									
m	7.347	n	11.13	.17.221	.187	.143	s	7.349	u	31.79	w	11.223	z	23.107	δ	7.353	g	37.67	i	13.191	l	19.131	m	47.53	o	11.227													
-	25	-	a	41.61	c	23.109	d	13.193	f	7.359	h	11.229	l	7.19	.19.361	.133	φ	17.149	p	43.59	z	13.197	α	11.233	β	17.151	c	7.367											
ε	31.83	β	29.89	f	13.199	o	7.7	.53.371	.49	p	23.113	-	26	-	b	19.137	e	7.373	k	43.61	l	37.71	m	11.239	q	7.13	.29.377	.203	91										
r	19.139	v	11.241	w	7.379	l	17.157	β	7.383	-	27	-	a	37.73	g	11.13	.19.247	.209	.143	k	7.389	p	7.17	.23.391	.161	.119	s	13.211											
t	41.67	y	31.89	z	11.251	δ	17.163	ε	47.59	g	7.397	i	11.11	.23.253	.121	-	28	-	c	7.401	d	53.53	f	29.97	i	7.13	.31.403	.217	.91										
l	11.257	n	19.149	q	17.167	u	7.11	.37.407	.259	.77	α	7.409	β	47.61	c	19.151	ε	13.13	.17.221	.169	β	43.67	m	7.7	.59	.413	.49												
n	11.263	p	13.223	-	29	-	e	41.71	i	23.127	k	37.79	m	29.101	φ	7.419	r	17.173	t	7.421	v	13.227	y	11.269	f	13.229	β	11.271											
i	19.157	f	29.103	l	7.7	.61	.427	.49	u	41.73	-	30	-	c	31.97	f	23.131	g	7.431	m	13.233	n	7.433	s	17.179	t	11.277	w	43.71										
y	7.19	.23.437	.161	.133	δ	37.83	ε	7.439	f	17.181	m	11.281	o	19.163	-	31	-	a	7.443	b	29.107	c	13.239	l	53.59	n	31.101												
φ	13.241	q	43.73	s	7.449	u	47.67	v	23.137	x	7.11	.41.451	.287	.77	z	29.109	ε	19.167	g	11.17	.17.289	.187	n	31.103	o	23.139													
p	7.457	-	32	-	e	13.13	.19.247	.169	k	11.293	l	7.461	φ	53.61	q	41.79	r	7.463	t	17.191	α	13.251	c	7.467	f	29.113	β	17.193											
i	7.7	.67	.469	.49	f	19.173	l	11.13	.23.299	.253	.143	n	37.89	-	33	-	e	7.11	.43.473	.301	.77	g	31.107	p	47.71	r	13.257	u	17.197										
w	7.479	β	7.13	.37.481	.259	.91	f	11.307	g	31.109	i	17.199	o	43.79	-	34	-	a	19.179	b	41.83	d	7.487	h	13.263	i	11.311	l	23.149										
n	47.73	p	7.491	q	19.181	s	11.313	v	7.17	.29.493	.203	.119	ε	23.151	g	7.7	.71	.497	.49	β	59.59	f	11.317	n	7.499	o	13.269	-	35										
-	b	31.113	d	11.11	.29.319	.121	i	7.503	k	13.271	v	53.67	w	11.17	.19.323	.209	.187	α	7.509	c	43.83	f	7.7	.73	.511	.49	f	17.211											
l	37.97	p	59.61	-	36	-	a	13.277	e	23.157	h	7.11	.47.517	.329	.77	m	19.191	r	11.331	t	7.521	u	41.89	w	13.281	z	7.523	β	19.193										
g	13.283	i	29.127	l	7.17	.31.527	.217	.119	-	37	-	b	7.23	.23.529	.161	c	11.337	f	47.79	i	61.61	n	7.13	.41.533	.287	.91	p	37.101											
s	19.197	u	23.163	v	11.11	.31.341	.121	x	13.17	.17.289	.221	α	53.71	ε	7.7	.7	.11.539	.343	.77	β	19.199	f	7.541	m	17.223														
p	29.131	-	38	-	d	13.293	e	37.103	g	11.347	l	43.89	m	7.547	q	11.349	r	23.167	x	7.19	.29.551	.203	.133	y	17.227	c	53.73												
δ	7.7	.79	.553	.49	i	11.353	f	13.13	.23.299	.169	n	17.229	p	7.557	-	39	-	a	47.83	f	7.13	.43																	

Krause's table of factors (1804) (reconstruction, D. Roegel, 2011)

z 13.397 e 7.739 f 31.167 i 71.73 m 29.179 - 52 - a 7.743 b 11.11.43.473.121 c 41.127 f 13.401 h 17.307 i 23.227
 q 13.13.31.403.169 s 7.7.107.749.49 u 29.181 v 59.89 x 7.751 a 19.277 b 23.229 c 11.479 f 17.311 m 11.13.37.481.407.143
 n 67.79 p 7.757 - 53 - e 47.113 g 13.409 i 17.313 l 7.761 m 73.73 q 19.281 r 7.7.109.763.49 w 53.101 x 11.487 y 23.233
 a 31.173 c 7.13.59.767.413.91 d 41.131 f 19.283 i 7.769 l 17.317 - 54 - a 11.491 e 7.773 k 11.17.29.493.319.187 m 61.89
 t 13.419 w 7.19.41.779.287.133 y 53.103 z 43.127 b 7.11.71.781.497.77 e 13.421 l 11.499 m 17.17.19.323.289 o 23.239
 55 - 55 - d 7.787 f 37.149 φ 11.503 p 7.7.113.791.49 q 29.191 s 23.241 u 31.179 v 7.13.61.793.427.91 z 67.83 b 19.293
 g 7.797 f 37.151 n 7.17.47.799.329.119 o 29.193 p 11.509 - 56 - b 13.431 d 71.79 e 31.181 g 41.137 i 7.11.73.803.511.77
 l 17.331 m 13.433 φ 43.131 a 7.809 d 53.107 f 7.811 b 13.19.23.437.299.247 f 11.11.47.517.121 p 41.139 - 57 - c 13.439
 f 29.197 h 7.19.43.817.301.133 k 59.97 m 17.337 n 11.521 t 7.821 w 11.523 y 13.443 z 7.823 b 73.79 d 29.199 e 23.251
 f 53.109 l 7.827 o 11.17.31.527.341.187 - 58 - b 7.829 d 37.157 h 11.23.23.529.253 n 7.7.7.17.833.343.119.49 φ 19.307
 p 13.449 a 11.13.41.533.451.143 e 7.839 f 7.29.29.841.203 m 43.137 n 71.83 p 17.347 - 59 - d 19.311 e 23.257 g 61.97
 i 31.191 m 7.7.11.11.847.539.121.77.49 φ 17.349 r 13.457 t 19.313 v 11.541 x 7.23.37.851.259.161 y 59.101 a 67.89
 60 c 47.127 d 7.853 f 43.139 i 31.193 l 53.113 n 13.461 p 7.857 - 60 - a 17.353 f 7.859 g 11.547 h 13.463 k 19.317
 n 37.163 r 7.863 u 23.263 y 73.83 z 11.19.29.551.319.209 d 13.467 f 59.103 i 7.11.79.869.553.77 o 7.13.67.871.469.91 -
 61 - b 17.359 c 31.197 d 41.149 h 29.211 l 11.557 p 17.19.19.361.323 q 7.877 u 11.13.43.559.473.143 x 47.131 z 61.101
 b 7.881 c 31.199 g 37.167 b 7.883 f 23.269 m 41.151 n 11.563 - 62 - d 7.887 k 7.7.127.889.49 l 13.479 φ 23.271 q 17.367
 r 79.79 v 7.19.47.893.329.133 w 13.13.37.481.169 y 11.569 b 11.571 i 61.103 l 19.331 n 7.29.31.899.217.203 - 63 -
 c 7.17.53.901.371.119 f 59.107 h 71.89 n 13.487 r 17.373 t 11.577 u 7.907 d 23.277 f 7.911 i 13.491 m 7.11.83.913.581.77
 - 64 - a 37.173 b 19.337 c 43.149 d 13.17.29.493.377.221 f 11.11.53.583.121 h 7.7.131.917.49 n 59.109 φ 7.919 p 41.157
 q 47.137 s 17.379 x 11.587 z 7.13.71.923.497.91 a 23.281 b 29.223 g 11.19.31.589.341.209 f 13.499 n 43.151 o 73.89
 65 p 67.97 - 65 - b 7.929 d 23.283 e 17.383 g 7.7.7.19.931.343.133.49 k 11.593 l 61.107 φ 47.139 q 13.503 r 31.211 x 79.83
 y 7.937 i 29.227 f 7.941 l 11.599 n 19.347 - 66 - a 7.23.41.943.287.161 e 11.601 f 17.389 g 13.509 k 37.179 m 7.947
 n 19.349 r 29.229 s 7.13.73.949.511.91 t 17.17.23.391.289 u 61.109 b 59.113 d 7.953 f 11.607 i 41.163 o 37.181 - 67 -
 c 19.353 f 7.7.137.959.49 i 11.13.47.611.517.143 l 7.31.31.961.217 n 53.127 q 23.293 s 11.613 u 17.397 v 43.157 x 29.233
 b 67.101 c 7.967 e 13.521 f 11.617 o 7.971 p 13.523 - 68 - d 11.619 e 7.7.139.973.49 g 17.401 i 19.359 q 7.977 t 41.167
 v 13.17.31.527.403.221 w 7.11.89.979.623.77 y 19.19.19.361 f 13.23.23.529.299 b 7.983 f 71.97 l 83.83 n 61.113 - 69 -
 a 67.103 f 31.223 h 11.17.37.629.407.187 k 7.23.43.989.301.161 m 13.13.41.533.169 n 29.239 p 7.991 r 11.631 s 53.131
 70 w 17.409 e 19.367 g 7.997 l 29.241 - 70 - b 47.149 c 7.7.11.13.1001.637.539.143.91.77.49 d 43.163 i 7.17.59.1003.413.119
 n 79.89 φ 13.541 p 31.227 u 7.19.53.1007.371.133 v 11.641 z 23.307 a 7.1009 b 37.191 e 11.643 b 73.97 f 19.373 m 7.1013
 n 41.173 o 47.151 p 31.229 - 71 - e 13.547 g 11.647 k 17.419 φ 7.1019 q 11.11.59.649.121 r 37.193 t 7.1021 w 23.311
 x 17.421 a 13.19.29.551.377.247 c 67.107 d 71.101 b 43.167 i 11.653 l 7.13.79.1027.553.91 p 23.313 - 72 - a 19.379 g 7.1031
 k 31.233 n 7.1033 r 13.557 u 11.659 y 7.17.61.1037.427.119 z 53.137 b 13.13.43.559.169 d 11.661 e 7.1039 f 19.383 g 29.251
 l 37.197 m 23.317 - 73 - a 7.7.149.1043.49 b 67.109 f 71.103 h 13.563 l 17.431 p 11.23.29.667.319.253 q 41.179 s 7.1049
 x 7.1051 z 17.433 a 37.199 b 53.139 e 73.101 g 47.157 b 11.11.61.671.121 f 83.89 m 19.389 o 13.569 p 7.7.151.1057.49 -
 74 - b 11.673 d 31.239 i 41.181 k 13.571 l 7.1061 m 17.19.23.437.391.323 q 43.173 r 7.1063 t 11.677 w 29.257 o 17.439
 75 c 7.11.97.1067.679.77 d 31.241 i 7.1069 n 59.127 - 75 - a 13.577 e 7.29.37.1073.259.203 f 11.683 h 73.103 n 17.443 s 19.397
 w 7.13.83.1079.581.91 b 7.23.47.1081.329.161 d 67.113 g 11.13.53.689.583.143 o 71.107 - 76 - a 11.691 d 7.1087 f 23.331
 h 19.401 l 29.263 n 13.587 φ 17.449 p 7.1091 v 7.1093 x 13.19.31.589.403.247 z 47.163 a 79.97 b 11.17.41.697.451.187
 g 7.1097 n 7.7.157.1099.49 o 43.179 - 77 - d 13.593 e 11.701 i 7.1103 m 59.131 φ 11.19.37.703.407.209 q 71.109 t 61.127
 v 23.337 a 7.1109 c 17.457 d 19.409 f 7.11.101.1111.707.77 b 31.251 i 43.181 f 13.599 p 11.709 - 78 - a 29.269 c 37.211
 e 73.107 f 13.601 h 7.1117 n 41.191 p 17.461 s 11.23.31.713.341.253 t 7.19.59.1121.413.133 u 47.167 y 29.271 z 7.1123
 d 17.463 l 7.7.7.23.1127.343.161.49 m 13.607 o 53.149 - 79 - b 7.1129 d 11.719 f 41.193 i 89.89 n 7.11.103.1133.721.77
 q 17.467 s 13.13.47.611.169 x 73.109 z 19.419 b 31.257 c 13.613 e 7.17.67.1139.469.119 g 79.101 b 23.347 f 7.7.163.1141.49
 80 m 61.131 o 11.727 p 19.421 - 80 - b 53.151 i 13.617 k 71.113 l 23.349 m 7.31.37.1147.259.217 φ 29.277 r 11.17.43.731.
 473.187 t 13.619 v 83.97 x 7.1151 a 11.733 d 7.1153 f 41.197 i 59.137 p 7.13.89.1157.623.91 - 81 - c 11.11.67.737.121
 f 7.19.61.1159.427.133 h 23.353 m 11.739 n 47.173 p 79.103 r 7.1163 s 17.479 u 29.281 w 31.263 y 41.199 e 11.743
 f 13.17.37.629.481.221 i 7.7.167.1169.49 l 19.431 o 7.1171 - 82 - a 59.139 b 13.631 c 29.283 f 43.191 l 19.433 q 7.11.
 107.1177.749.77 u 73.113 v 37.223 x 23.359 z 11.751 b 7.1181 g 17.487 b 7.7.13.13.1183.637.169.91.49 p 43.193 - 83 -
 b 19.19.23.437.361 d 7.1187 i 53.157 k 7.29.41.1189.287.203 l 11.757 φ 13.641 q 31.269 r 19.439 t 17.491 v 7.1193 x 61.137
 y 13.643 d 11.761 b 17.17.29.493.289 i 83.101 n 7.11.109.1199.763.77 p 37.227 - 84 - a 31.271 c 7.1201 e 13.647 f 47.179
 g 19.443 p 11.13.59.767.649.143 r 23.367 u 7.17.71.1207.497.119 w 79.107 y 11.769 d 43.197 e 37.229 f 7.7.173.1211.49
 85 g 61.139 i 17.499 l 13.653 m 7.1213 o 29.293 - 85 - b 11.773 c 47.181 d 67.127 h 7.1217 n 19.449 φ 7.23.53.1219.371.161
 u 83.103 v 17.503 x 43.199 z 7.1223 b 13.659 c 11.19.41.779.451.209 g 23.373 f 31.277 m 11.11.71.781.121 n 13.661 - 86 -
 b 7.1229 e 79.109 g 7.1231 i 37.233 φ 89.97 q 53.163 v 41.211 w 17.509 x 11.787 y 7.1237 d 13.23.29.667.377.299 i 19.457
 f 7.17.73.1241.511.119 - 87 - a 7.11.113.1243.791.77 e 31.281 g 23.379 k 11.13.61.793.671.143 m 7.29.43.1247.301.203
 s 7.1249 u 13.673 y 19.461 b 11.797 d 7.7.179.1253.49 e 31.283 f 67.131 l 11.17.47.799.517.187 m 59.149 o 19.463 - 88
 - a 13.677 d 23.383 f 7.1259 l 7.13.97.1261.679.91 φ 11.11.73.803.121 s 37.239 v 53.167 x 17.521 c 7.7.181.1267.49
 e 19.467 g 13.683 b 83.107 m 17.523 o 7.31.41.1271.287.217 p 11.809 - 89 - b 29.307 d 59.151 e 7.19.67.1273.469.133
 g 37.241 i 11.811 l 79.113 q 7.1277 t 23.389 w 7.1279 x 13.13.53.689.169 y 17.17.31.527.289 f 47.191 b 7.1283 i 13.691
 90 f 11.19.43.817.473.209 l 89.101 n 17.23.23.529.391 - 90 - g 71.127 h 29.311 k 7.1289 n 11.821 p 7.1291 t 83.109 w 11.823
 z 13.17.41.697.533.221 d 47.193 e 43.211 f 29.313 g 7.1297 i 31.293 l 61.149 o 11.827 - 91 - a 19.479 c 7.1301 f 13.701
 h 11.829 i 7.1303 n 23.397 q 13.19.37.703.481.247 s 41.223 u 7.1307 a 7.7.11.17.1309.833.539.187.119.77.49 b 89.103
 c 53.173 g 67.137 m 7.13.101.1313.707.91 n 29.317 o 17.541 - 92 - e 61.151 g 13.709 k 23.401 m 11.839 φ 7.1319 t 7.1321

Krause's table of factors (1804) (reconstruction, D. Roegel, 2011)

v 11.29.29.841.319 w 19.487 y 47.197 a 59.157 c 13.23.31.713.403.299 d 73.127 f 37.251 l 7.1327 p 17.547 - 93 - a 71.131
c 41.227 f 67.139 g 7.11.11.11.1331.847.121.77 m 19.491 n 7.31.43.1333.301.217 t 13.719 w 47.199 y 7.7.191.1337.49 z 11.
23.37.851.407.253 b 17.19.29.551.493.323 e 7.13.103.1339.721.91 g 83.113 i 11.853 l 41.229 - 94 - a 7.17.79.1343.553.119
c 23.409 d 97.97 l 11.857 s 7.19.71.1349.497.133 u 11.859 v 13.727 x 7.7.193.1351.49 c 17.557 b 19.499 f 53.179 n 11.863
p 7.23.59.1357.413.161 - 95 - b 13.17.43.731.559.221 d 37.257 g 31.307 k 89.107 l 7.1361 m 13.733 r 7.29.47.1363.329.203 95
w 41.233 x 19.503 y 11.11.79.869.121 a 73.131 c 7.1367 d 17.563 f 61.157 b 11.13.67.871.737.143 i 7.37.37.1369.259 l 43.223
n 53.181 p 29.331 - 96 - c 13.739 e 7.1373 g 59.163 p 23.419 r 31.311 t 11.877 w 7.7.197.1379.49 y 13.743 b 7.1381
d 19.509 e 17.569 i 23.421 m 11.881 - 97 - a 89.109 b 31.313 c 17.571 d 7.19.73.1387.511.133 f 11.883 l 71.137 n 37.263
p 7.13.107.1391.749.91 v 7.7.199.1393.49 x 11.887 z 43.227 a 13.751 e 29.337 g 7.11.127.1397.889.77 n 7.1399 o 97.101
p 41.239 - 98 - d 17.577 i 7.23.61.1403.427.161 k 11.19.47.893.517.209 l 31.317 r 13.757 t 43.229 w 59.167 a 7.1409 c 71.139
f 7.17.83.1411.581.119 b 41.241 l 11.29.31.899.341.319 n 13.761 p 19.521 - 99 - e 11.17.53.901.583.187 f 23.431 g 47.211
h 7.13.109.1417.763.91 p 19.523 s 61.163 t 7.7.7.29.1421.343.203.49 w 37.269 y 23.433 z 7.1423 d 13.13.59.767.169
f 11.907 g 17.587 i 67.149 l 7.1427 m 97.103 o 13.769.