

# UNDOMINATED ALPHABETIC SEQUENCES

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In past Word Ways articles, various authors have explored words which contain consecutive letters of the alphabet (1) in order and adjacent to each other, (2) in order but not necessarily adjacent, and (3) neither in order nor adjacent. The longer the consecutive-letter sequence that can be found in a word, the more noteworthy it is; for example, overSTUffed is clearly more interesting to the logologist than fiRST. I define an alphabetic sequence as undominated if a word can be found containing all the letters in that sequence, but no word can be found containing any longer sequence including all the letters of the original one. Thus, RSTU is an undominated sequence for words with letters adjacent and in order, for there are no words containing the pentagrams QRSTU or RSTUV, the hexagrams PQRSTU, QRSTUV or RSTUVW, etc. On the other hand, RSTU is not an undominated sequence for words with letters neither in order nor adjacent; VenTRilo-QUIST, for example, contains the more inclusive sequence QRSTUV.

In the table below, I identify all undominated sequences with respect to solid, boldface words in the Merriam-Webster Pocket Dictionary, for the three conditions mentioned above. Accompanying each undominated sequence is the shortest word known:

Adjacent In Order	Not Adjacent In Order	Not Adjacent Not in Order
BC bobcat	ABCDE ambuscade	ABCDEF feedback
CD anecdote	DEFG defog	CDEFGHI lightfaced
DEF deft	EFGHI prizefighting	GHIJK straightjacket
FGH afghan	HIJK hijack	IJKL jailbreak
GHI dunghill	JKLM jackal	JKLMN lumberjack
HIJ hijack	KLMN kleptomania	KLMNOP kleptomania
KL ankle	LMNO luminous	NOPQR propinquity
LMN calmness	MNOP monopoly	PQRSTU perquisite
MNO somnolent	OPQ opaque	QRSTUV ventriloquist
NOP nope	PQRS parquetry	RSTUVW liverwurst
Q quit	QRST quartermaster	WXY waxy
RSTU understudy	RSTU rostrum	YZABC recognizably
UV mauve	STUV destructive	
W we	UVW purview	
XY waxy	WXY waxy	
YZA coryza	YZAB hypnotizable	
ZAB sizable		

Except for overSTUffed, mentioned earlier, I know of no other word with an alphabetic tetragram in the first list. In the second list, an ABCDE inferred form is given by ABsConDEr. The word lIGHtFACED appears to be the only one in the Pocket Dictionary with seven consecutive letters neither adjacent nor in order; I am indebted to Tom Pulliam for this discovery. In fact, there are very few other sixers in the Pocket Dictionary; Tom Pulliam found BACKFiELD, FIGurEHead, PRereQUISiTe, PicTUREsQue, BAReFaCeD, tIGHtFistED, PhaNtOM-LiKe, ForEsIGHted, FarsIGHtED, BioFEeDbACK, and FrIGHtEneD.

If one relaxes the requirements a bit, alternatives appear. If logical inferred forms are allowed, dunghill can be shortened to sighing in the first list, and straightjacket to hijacking in the third. The hyphenated JacK-In-tHe-puLpit, with HIJKL, dominates IJKL; PROpiN-QUiTieS or QUadRUPLicaTiONS, with NOPQRSTU, dominate both NOPQR and PQRSTU in the third list. The latter words are both listed in singular form in the Pocket Dictionary, and the plural -s is specifically indicated in Webster's Third; nevertheless, one would feel more comfortable with actual examples of usage, particularly for propinquities.

The analogous list of undominated sequences with respect to words in Webster's Second or Third is given below:

Adjacent In Order	Not Adjacent In Order	Not Adjacent Not in Order
ABC dabchick	ABCDE ambuscade	CDEFGHI lightfaced
CDE ecdemic	CDEF campodeiform	GHIJK straightjacket
DEF deft	DEFGH underfreight	HIJKL kjeldahlize
EFG trefgordd	EFGHI prizefighting	IJKLM jamlike
FGH afghan	HIJK hijack	KLMNOP kleptomania
GHI sighing	JKL jacklight	LMNOPQR quadripulmonary
HIJ hijack	KLMNO Kilmarnock	NOPQRSTU quadruplications
IJK satlijk	LMNOP limnophile	PQRSTUVWXYZ supraquantivalent
KL sickly	NOPQ unopaque	RSTUVW liverwurst
LMN calmness	PQRS parquetry	WXY waxy
MNOP limnophile	QRST quartermaster	XYZABC benzoxyamphor
OPQ popquiz	RSTUV interdestructive	YZABCDEF brazenfacedly
QR miqra	UVW purview	
RSTU understudy	WXY waxy	
UV mauve	XYZAB oxygenizable	
W we	ZABC Mozambican	
XYZ hydroxyzine		
YZAB analyzable		

If one allows hyphenated words or dictionary phrases, the sequence ABCDEFGHI can be found: BRIGHt-FACED and BLACkFacED HIGHland (both noted by Dmitri Borgmann in Language on Vacation) and BLEACHInG Field. For FGHIJKL, Darryl Francis notes the excellent HaLF-JoKInG, found in Webster's Second. For the record, all known Websterian words with alphabetic tetragrams are given below:

- MNOP gymnopaedia, gymnopedia, gymnopaedic, Gymnophilona,  
Gymnopaedes  
limnophil, limnophile, limnophilous, Limnophilidae,  
limnophilid, Limnopithecus, limnoplankton, limnoplanktonic  
somnia, somnopathist  
Thamnophilus, Thamnophis, thamnophile, thamnophiline,  
Thamnophilinae
- RSTU overstuff, overstuffed, overstudy, overstudied, overstud,  
overstudious, overstudiously, overstudiousness  
understuff, understuffing, understumble  
superstuff

There are a number of other Websterian words containing the sequence NOPQRSTU: preinquisition, prerequisite, proacquisition, supereloquent, equipartitions, perquisition, prequestion and prequalifications. However, none of these match the hyphenated word in the Random House Unabridged Dictionary containing LMNOPQRSTU, found by Ralph Beaman: QUaSi-cOMPLemeNTaRy.

The study of undominated sequences can be carried out for reversed alphabets as well; for Websterian words, the undominated list for letters adjacent and in order is given below:

Adjacent  
In Order

YX asphyxiate  
XW boxweed  
WV hoWVe  
VUT kevutzah  
UTS nuts  
SR classroom  
RQ torque  
PONM tamponment  
ML firmly  
LKJ stolkjaerre  
JIH jihad  
HG churchgoing  
GFE songfest  
FED fed  
EDC bedclothes  
CBA bacbakiri  
BAZY carbazylic

Would any reader like to generate the corresponding Websterian reversed alphabet list if the letters in the word do not have to be adjacent to each other?