

July 2018 wordoku

A		R	N			M		
	V							
						A		
			S	T		E	L	
				A				
R		M		V			T	
		N	M	L				E
								M
	T	E				N	S	

A
E
L
M
N
R
S
T
V

Solve this wordoku in the same way as a sudoku with letters instead of numbers (each of the nine letters in each row, column and nine-square cell). Once solved, one of the overall diagonals can be rearranged into the name of an early chemotherapeutic agent.

July 2018 word grid

N	O	Ti
Fr	At	O
N	Ac	I

Prize entry: Using each element symbol in the grid only once, combine them together to make a single word of 13 letters.

Word.....

Just for fun: Construct as many other words as you can using a minimum of three symbols, and each symbol only once.
6 words: OK
9 words: Good
12+ words: Excellent

Entry form

There are four prize puzzles on this page: crossword (cryptic answers only); wordoku; molecule search; and word grid. For each puzzle, a winner will be selected from all the correct entries received and awarded a £25 book voucher.

You can enter any or all of the prize draws, but each entrant is only eligible to win one of the individual puzzle prizes each month.

Please enter your details below and either post or email this page with your completed entries to us by **20 July 2018**. The winners of this month's puzzles will be published in the August 2018 issue, along with the solutions.

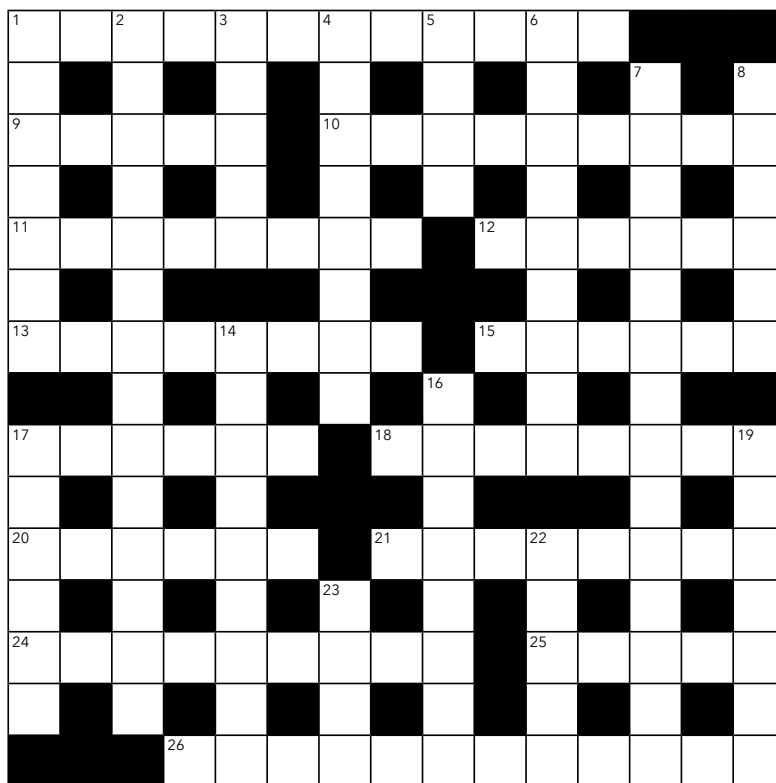
Chemistry World puzzles, Royal Society of Chemistry,
Thomas Graham House, Science Park, Milton Road,
Cambridge, CB4 0WF, UK
Email: chemistryworld@rsc.org

Name

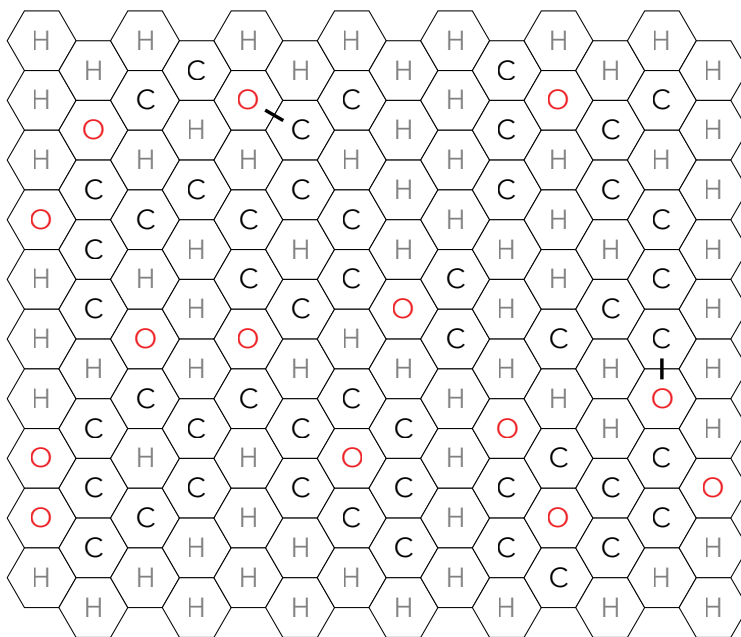
Address

Participants are advised that any personal information supplied will be processed in connection with this competition and only in accordance with our privacy statement (www.chemistryworld.com/privacy).

July 2018 crossword



July 2018 molecule search



Connect atoms in adjacent cells using single or multiple bonds to reveal the hidden molecules. The hexagonal grid necessitates some distortion of bond angles – for example in five-membered rings.

Find these three molecules. We've already started two of them for you.
 $C_{14}H_{18}O_4$ $C_{14}H_{12}O_3$ $C_{15}H_{22}O_3$

Clues: Everybody's free (to wear these molecules). And at this time of year it's recommended. Two of the molecules are esters, the other is a ketone.

Cryptic (prize entry)

- Across**
- 1 A curlow prone to alternative source of energy? (7, 5)
 - 9 Create a lost Greek island (5)
 - 10 Mark and heartless Sandra married in Asian city (9)
 - 11, 13 Across French natural philosopher upset elite cadet with helium (6, 2, 8)
 - 12 Takes a stab at preparing iron inks (6)
 - 13 See 11 Across (8)
 - 15 Rule over extreme nag in a pickle (6)
 - 17 Left mixing with lower writer (6)
 - 18 I sail right around a top Brazilian city (8)
 - 20 First group wants surprisingly nasal sounds (6)
 - 21 One fool after another in killing mode? (8)
 - 24 For Spooner, could woks be used for such birds? (9)
 - 25 Musical that is about nan? (5)
 - 26 Fighting alligator I upset odd deal (12)

Quick (just for fun)

- Across**
- 1 Without parallel (12)
 - 9 Compound with -OOR group (5)
 - 10 Genus of flowering plants in the legume family (9)
 - 11 Trickery (archaic) (8)
 - 12 Separate by heating (6)
 - 13 Polluted precipitation (4, 4)
 - 15 Small (6)
 - 17 Birthplace of Ludwig Boltzmann (6)
 - 18 Milk producer (5, 3)
 - 20 Young Atlantic codfish or haddock, especially one split for cooking (6)
 - 21 Spanish gold coin (8)
 - 24 German philosopher (9)
 - 25 Oriental country (5)
 - 26 Seals with large inflatable sacs on their heads (12)

Down

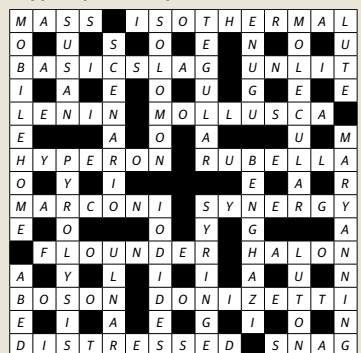
- 1, 23 Down Left out a clinic clued about biomolecule (7, 4)
- 2 A comical nephew turns into something sinister (8, 6)
- 3 Adele might be hiding essential oil (5)
- 4 Desires about initially unwanted leftovers (8)
- 5 Resistance units primarily on hidden military surveillance (4)
- 6 Sourer about one mistaken (9)
- 7 Italian painter plays fantasia for Ella without end (9, 5)
- 8 Fred is only a little inventor (6)
- 14 Praising Lucia redesigning Lego? (9)
- 16 Artificial intelligence turns shires into maritime region (5, 3)
- 17 Not entirely a watt of energy returned? Capital! (6)
- 19 Disturbed pa alone, snoring (7)
- 22 Paloma lost her head over battle (5)
- 23 See 1 Down (4)

Down

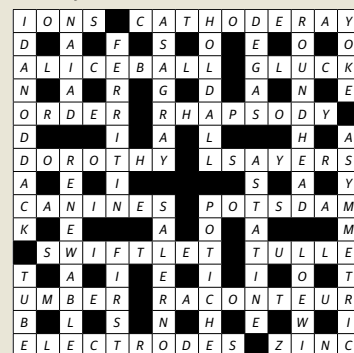
- 1 Resistance of an object to change in its state of motion (7)
- 2 Firework (9, 5)
- 3, 5 Down, 8 Down, 6 Down French chemist and noble, worked with her chemist husband (5-4, 6, 9)
- 4, 23 Down Vitamin championed by Linus Pauling (8, 4)
- 5 See 3 Down (4)
- 6 See 3 Down (9)
- 7 Branch of geology concerning continental drift (5, 9)
- 8 See 3 Down (6)
- 14 Bird of the uplands (4, 5)
- 16 Natural photosynthetic pigment (8)
- 17 Hindu deity (6)
- 19 German chemist awarded the Nobel prize for work on sterols (7)
- 22 English philosopher (5)
- 23 See 4 Down (4)

June 2018 solutions and winners

Cryptic (prize entry)



Quick (just for fun)



Wordoku

The alkaloid was ACONITINE

Word grid

The nine-symbol word was PHOSPHORESCE

June winners

Molecule search

Jim Jamieson, Marlow, UK

Wordoku

Ben Clough, Penzance, UK

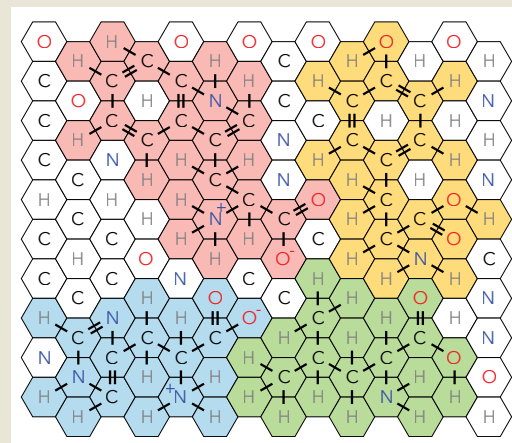
Word grid

Joan Armstrong, Rhos-on-Sea, UK

Crossword

Steven Ellis, Huddersfield, UK

Molecule search



The four molecules are the essential amino acids histidine, leucine, tyrosine and tryptophan.

On the spot



Answer to On the spot

Many solvents such as diethyl ether are considered time sensitive. Over time, they react with oxygen in the air to form explosive peroxides. These often have a crystalline appearance and can be extremely shock sensitive. The bottle should not be moved or, if it has been picked up, moved carefully to a safe location. A licensed explosives company should then be contacted to safely remove it. If you consider there to be an immediate risk to people in the area, or chance disposal can be called. If the bottle was correctly labelled you could also look up its properties as some solvents have freezing points close to room temperature.

Charles Harrison is a safety advisor at a UK university.