

August 2017 chemistry wordoku

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

A
E
L
M
N
O
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 eminent materials scientist

August 2017 word grid

S	Y	Th
H	Os	Au
C	Ru	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 August 2017**. The winners of this month's puzzles will be published in the September 2017 issue, along with the solutions.

Chemistry World puzzles, Royal Society of Chemistry,
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Cambridge, CB4 0WF, UK
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Name

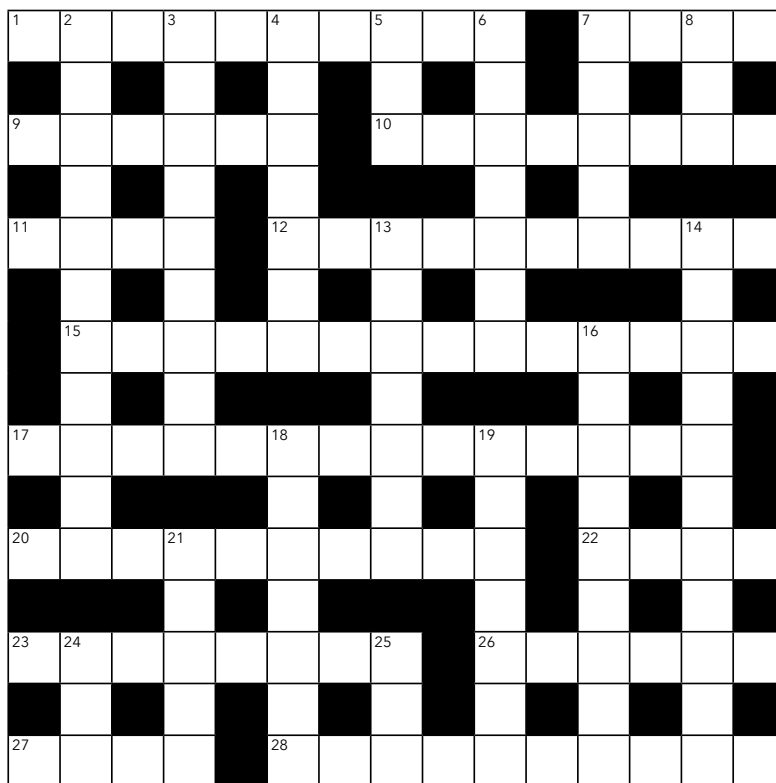
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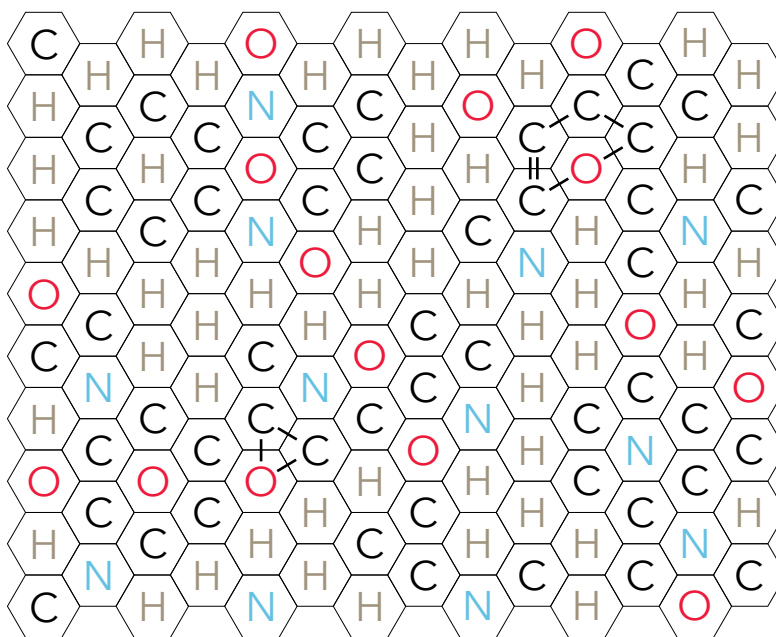
Participants are advised that any personal information supplied will be processed in connection with this competition and only in accordance with our privacy statement (www.chemistryworld.com/privacy).

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August 2017 crossword



August 2017 molecule search



Connect atoms in adjacent cells using single or multiple bonds to reveal the hidden molecules. The hexagonal grid necessitates a minor distortion of bond angles - for example the five-membered ring drawn in as a starting point.

Find these four molecules - we've already started two of them for you.



Clues: The molecules include one ester, one aldehyde and one ketone. Two include alcohols. Three contain heterocycles - but those rings are not all aromatic.

Cryptic (prize entry)
Across

- Surprising stretch left in defence (4, 6)
- Some lone vacationers return to retreat (4)
- Plans poses around heart of Accra (6)
- Treat confused rat with salt? (8)
- Lovelock's hypothesis having odd gravitas? (4)
- Tickle-my-fancy around these areas! (10)
- Chalet pay phone upsetting brain condition? (14)
- Origin recently turned explosive (14)
- Radiant around golf punter (10)
- Approach two nobles (4)
- Iron rightly dominates these fittings (8)
- Lure inside gent I certified (6)
- 27, 28 Across Signori uneasy about a Russian chemist (4, 10)

Down

- The French heretical about chemist of principle (2, 9)
- Variety act panted around car (3, 6)
- I prepare posher syrup (4, 3)
- Oddly is not scrambled egg (3)
- Hair too wild for Shakespearean character? (7)
- Chemist cooks initially unpalatable rice (5)
- Oddly twelve return to investigate (3)
- Sanely upset a test (7)
- Here alpacas digest plants (11)
- Estranges troubled teen alias (9)
- Right away, I play allegro for Italian polymath (7)
- Intense, heartless Eve cross about term (7)
- Iron rim around Italian physicist (5)
- Even dummies come back to bird (3)
- Seesaw oddly wet! (3)

Quick (just for fun)
Across

- Bone doctors (10)
- Bonkers (4)
- Bulgarian Black Sea resort (6)
- First element in Group 6 (8)
- Analyse (4)
- BBC soap opera (10)
- Cornish chemist (3, 7, 4)
- German chemist who synthesised indigo (5, 3, 6)
- Very accurate clock (10)
- Not odd (4)
- Polysaccharides (8)
- Caoutchouc (6)
- At one time (4)
- Child prodigy (10)

Down

- Ray-finned fishes (Atheriniformes) (11)
- Regarding voters (9)
- Area of fairly level high ground (7)
- Sudden movement or vocalisation (3)
- Asiatic cuckoo (7)
- Wanderer (5)
- Greek letter (3)
- Amphipathic glycoside (7)
- Longest natural waterway in Britain (5, 6)
- South African antelope (9)
- German 'father of modern pathology' (7)
- English racecourse (7)
- Non-SI unit of radioactivity (5)
- Stannum (3)
- Star (3)

Answer to On the spot
MRI machines' magnets are strong - it's not unusual for items to get stuck to them. Small articles can be pried off with a wooden bar, but in this instance the casualty makes prying the ladder off risky; initially, the response to this will be turn off the MRI. But hitting the stop button will cause the magnet to go into quench, where the cooling element is removed to reduce the magnet's superconductivity. The machine will expel helium and nitrogen vapours, which could lead to an asphyxiant atmosphere should ventilation systems not be in place or fail. The best course of action is to attempt a quick rescue in minimal personal protective equipment as five crews' breathing apparatus could also be drawn into the magnet. This situation would be costly for the hospital as helium is expensive and the MRI suite would likely be out of action for some time.
Tom Johnson is an emergency responder at the National Chemical Emergency Centre

On the spot: Hospital call

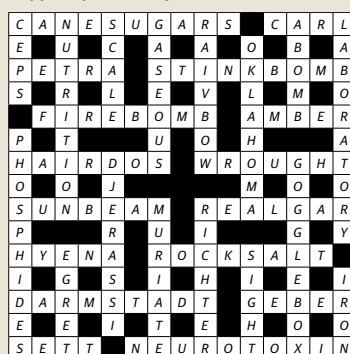
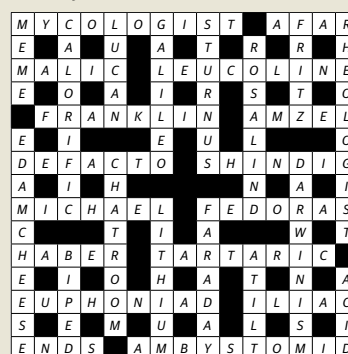
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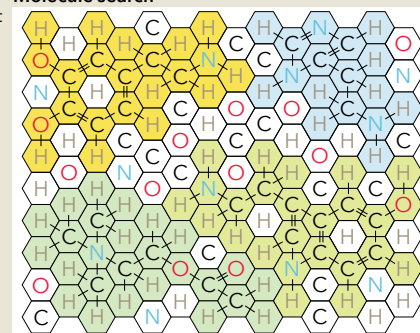
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July 2017 solutions and winners
Cryptic (prize entry)

Quick (just for fun)

Wordoku

The name of the German chemist was Theodor GROTHUUS

Word grid

The nine-symbol word was PROCRASTINATION

Molecule search

July winners
Molecule search

I Cipriano, Dundee, UK

Wordoku

P Day, Bristol, UK

Word grid

H Corran, Matlock, UK

Crossword

A Stockwell, Banbury, UK

The four molecules are the neurotransmitters dopamine, acetylcholine, serotonin and histamine