

May 2017 chemistry wordoku

		M			R	N		T	E
	E		H			R			H
N			O	E					I
I	R		N						M
									N
					I		M	S	O
			H	E				R	R
	E		O			N			S
T	I	M			H				T

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 amino acid.

May 2017 word grid

S	I	C
Re	P	P
Te	Ta	I

Prize entry: using each element symbol in the grid only once, combine them together to make a single word of 12 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

May 2017 crossword

May 2017 molecule search

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

Find these three molecules - we've already drawn two of them for you.
C6H9N3O3 C8H9NO5 C16H19N3O5S

Clues: two of the molecules contain β-lactam rings; one includes a nitro group; all three contain five-membered heterocycles.

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 only win one of the individual puzzle prizes each month.

If you submit correct entries for all four prize puzzles you will also be entered into a draw to win this month's grand prize* provided by RSSL:

Gold Level Membership (1 Jan 2017 to 31 Dec 2017) - Emergency Response Service. Find out more at rsc.li/CWPuzzles

Please enter your details below and either post or email this page with your completed entries to us by **20 May 2017**.

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

Name

Email

Tel

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). In order to claim the grand prize, the winner's personal information will be provided to RSSL.

* Limit of one entry per person before the closing date specified. The winner will be randomly selected and will be contacted directly by RSSL. There is no cash alternative to the winning prize.

RSSL may wish to contact you via email with further information about products and services. Please tick the box if you would like to be contacted by RSSL via email and consent to us sharing your contact details with RSSL for this purpose

Cryptic (prize entry)

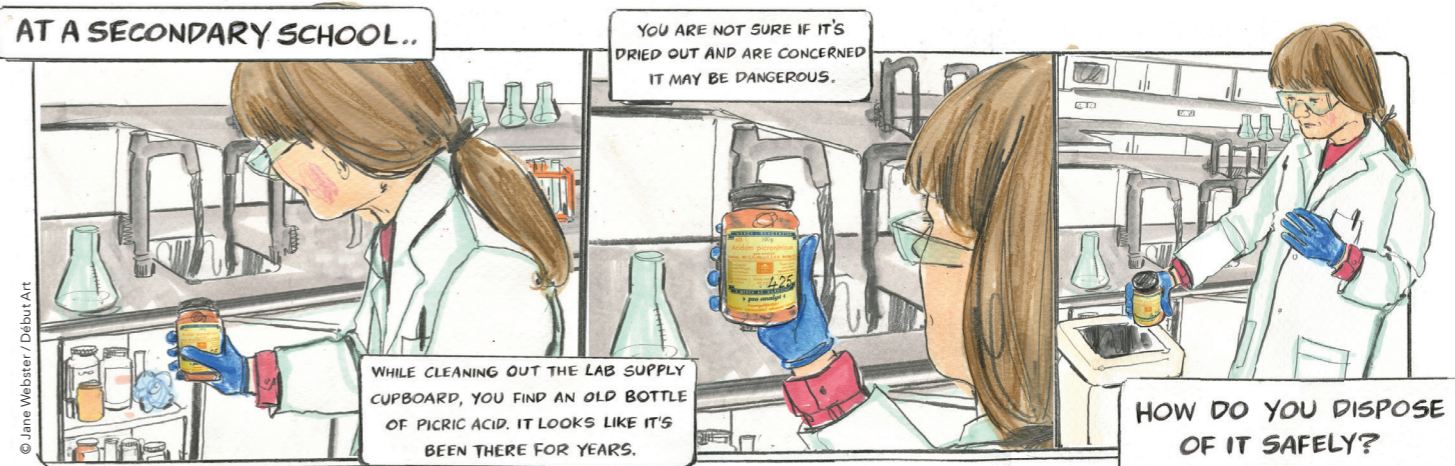
- Across**
- 1, 22 down Mere adjunct to quadruped (7, 4)
 - 5 Wrap right around end of flume (7)
 - 9 Needs rook, otherwise outplayed! (9)
 - 10 Charged column? (5)
 - 11 Puts up with a cat's commode confusingly (12)
 - 14 Drink if pirate upset (8)
 - 15 Even timid around pond fish (6)
 - 17 Internally restrict a little gaping (6)
 - 18 Mix a lighter pigment (8)
 - 20 Collar a robot about colleague? (12)
 - 23 Italian architect right about vine (5)
 - 24 Tale about girl I rock! (9)
 - 25 I leave Michael about my final transmutation (7)
 - 26 Sparky footballer? (7)
- Down**
- 1 Overlook young lady (4)
 - 2 None around noble light (4)
 - 3 Keith loses direction - I joke about manic chemist from Japan (7, 8)
 - 4 Initial banter about caloric a load of old soap? (8)
 - 5, 19 down Mad about army above literary self-poisoner (6, 6)
 - 6 Chemist filed error which confused (9, 6)
 - 7 Nut learned about possession (4, 6)
 - 8 Colder skis around avalanches! (10)
 - 12 Plant car in troubled areas (10)
 - 13 Acid treatment of extremely late rich crop (10)
 - 16 Brazilian trees upsetting giant asp? (8)
 - 19 See 5 down (6)
 - 21 Nip back with potassium colour (4)
 - 22 See 1 across (4)

Quick (just for fun)

- Across**
- 1 SI unit of luminous intensity (7)
 - 5 Martial art (7)
 - 9 Stabiliser (9)
 - 10 Stringed instrument (5)
 - 11 Numenius borealis (6, 6)
 - 14 French physicist famous for his pendulum (8)
 - 15 2009 film featuring unobtainium (6)
 - 17 Portable coolers (Australian) (6)
 - 18 Mineral, MgAl₂O₄ (French) (8)
 - 20 Structures in a cell's cytoplasm (12)
 - 23 Teacher (5)
 - 24 The present (4, 5)
 - 25 See 1 down (7)
 - 26 Young swans (7)
- Down**
- 1, 25 across Pesticide applicator (4, 7)
 - 2 Lousy egg cases (4)
 - 3 Nobel prize-winning organic chemist (5, 5, 5)
 - 4 Caribbean island (8)
 - 5 Gobbledygook (6)
 - 6 German chemist (6, 3, 6)
 - 7 Gossip (10)
 - 8 Not compensated (10)
 - 12 Consequences (10)
 - 13 Altaic language (5-5)
 - 16 Outbreak of disease that spreads rapidly (8)
 - 19 British chemist, pioneer of flash photolysis (6)
 - 21 Longest river (4)
 - 22 Ova (4)

Answer to On the spot
 When worried, picric acid is quite safe, but once it dries out it can become shock sensitive. There's no need to call the fire service or bomb squad though, the bottle has been safe in the cupboard for years. Just don't try to open it. The caps of old bottles are normally Bakelite but could be metal, which picric acid can react with to form metal picrates which are very friction sensitive. A chemical disposal company can take care of it. They will drill a hole in the cap and inject water, which will re-wet the material and render it safe for transport and disposal.

On the spot: Technician's dilemma



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April 2017 solutions and winners

Cryptic (prize entry)

S	B	U	N	S	E	N	B	U	R	N	E	R
P	I	C	A	M	A	R	D	A	N	I	E	L
E	Q	B	T	D	G	M	I	L	A	K	L	N
C	R	U	X	R	H	E	O	L	O	G	I	S
I	E	R	A	G	E	E	U	A	N	S	T	L
F	O	R	A	G	E	D	S	A	Z	E	R	A
I	E	L	I	U	M	T	E	L	S	T	A	R
C	A	L	C	I	U	M	T	E	L	S	T	A
D	I	S	A	S	T	R	O	U	S	H	E	A
O	E	A	C	L	C	N	E	A	H	O	E	N
T	O	R	O	N	T	O	I	B	E	R	I	A
U	D	N	U	L	U	E	H	O	U	S	E	B
A	M	M	O	N	I	U	M	A	L	U	M	

Quick (just for fun)

S	P	E	R	M	A	N	G	A	N	A	T	E
E	N	T	R	O	P	Y	A	C	E	T	O	N
L	A	K	L	N	U	R	Y	E	A	S	T	
E	A	S	T	S	A	T	I	N	W	E	A	V
N	S	T	S	T	L	L						
I	M	I	T	A	T	E	E	D	A	M	A	M
U	U	T					N	L	S			
M	A	M	M	O	T	H	C	U	D	G	E	L
H	O	X	A									
F	I	R	E	B	O	M	B	E	D	D	A	V
A	H	O	E	N	A	I	A	D	E	S		
T	R	I	U	M	P	H	N	A	I	A	D	E
H	U	B	U	A	R	E						
H	O	U	S	E	B	U	I	L	D	E	R	

Wordoku
 The name of the antiviral drug was ACYCLOVIR

Word grid
 The nine-symbol word was THERMODYNAMICS

Molecule search

April winners

Molecule search and overall winner: Simon-John King, St Andrews, UK

Wordoku
 Timothy Weakley, Dundee, UK

Word grid
 Ben Chalmers, Galway, Ireland

Crossword
 Rosalyn Bedford, UK

The two molecules are the azo dyes Sudan 1 (a now-banned orange pigment) and azo violet (used as a purple dye and pH indicator)