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"Why am I muted?"
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Type them into questions box!

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Check out REACTIONS EVERYDAY CHEMISTRY on YouTube !

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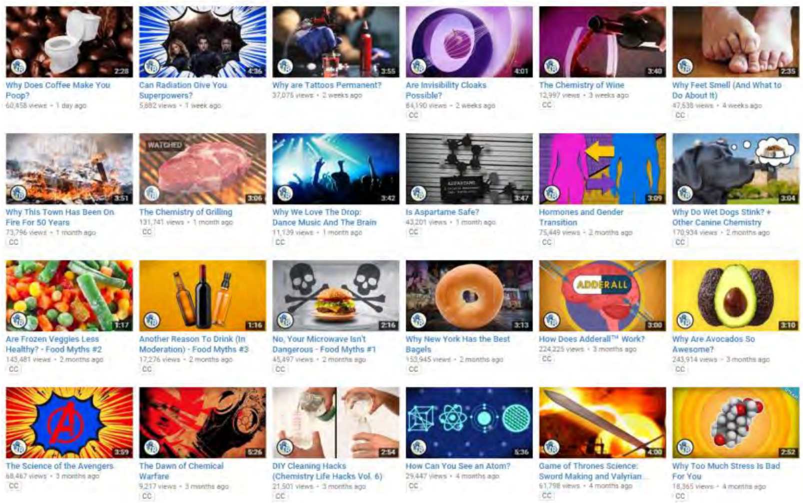

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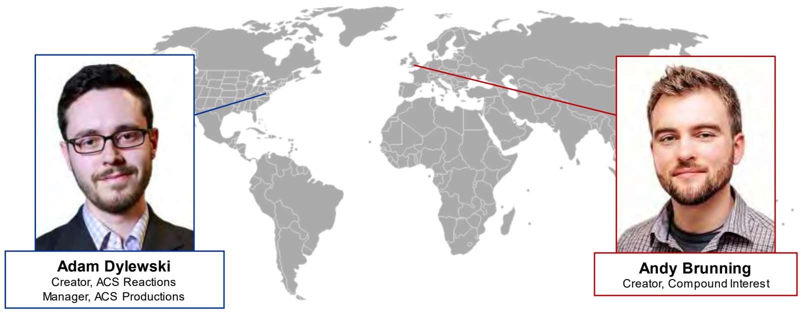

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COMPOUND INTEREST

SCIENCE COMMUNICATION

VISUAL CHEMISTRY BY DESIGN

ACS Webinars – August 13, 2015

Andy Brunning

VISUAL CHEMISTRY BY DESIGN

- Why communicate chemistry visually?
- How can we communicate chemistry to a non-specialist audience?
- How can we engage a non-specialist audience?
- What resources can be used to create infographics?

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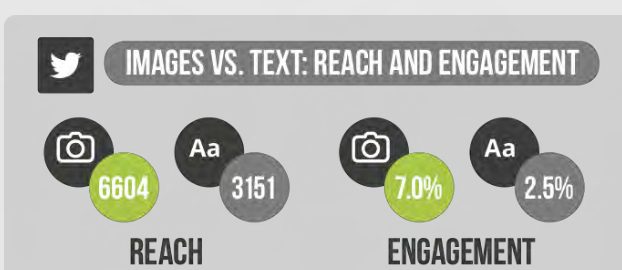
WHY COMMUNICATE CHEMISTRY VISUALLY?

- Chemical structures lend themselves to a visual approach.
- Provides clear and succinct summary of topics.
- Higher online engagement – images achieve greater reach and engagement than text.



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AUDIENCE INTERACTIVE POLL

WHERE DO YOU USUALLY GET YOUR CHEM NEWS?
(You may choose multiple sources)

- Chemistry/Science-based news sites (e.g. C&EN, Chemistry World, Nature News, New Scientist)
- General news sites
- Scientific journals
- Social media-based sites (e.g. IFLS)

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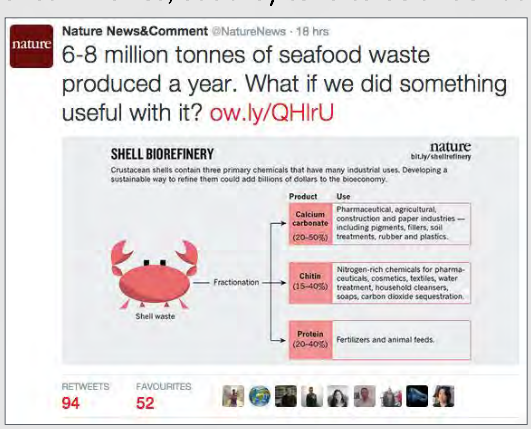
COMMUNICATING RESEARCH VISUALLY

- Some research articles and chemistry news articles include graphical abstracts or summaries, but they tend to be under-utilised.



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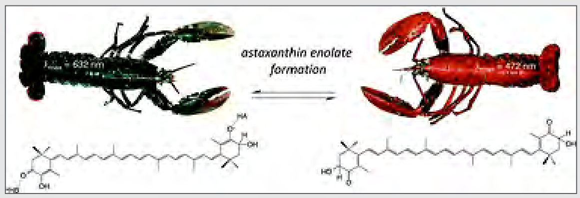
GRAPHICAL ABSTRACTS – COMPARE & CONTRAST



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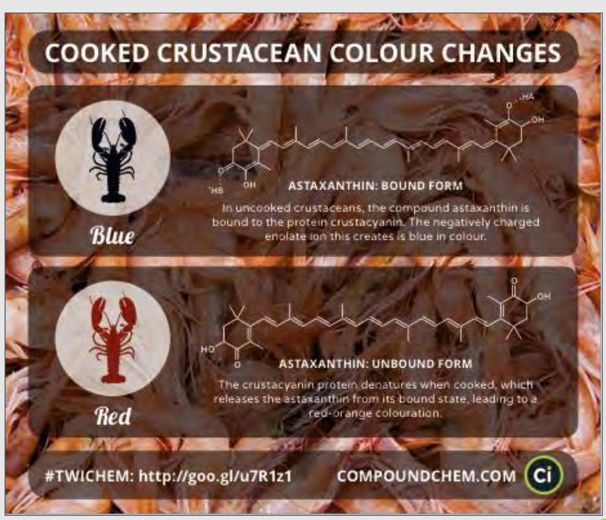
GRAPHICAL ABSTRACTS



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POLL: WHICH INFO IS QUICKEST AND EASIEST TO INTERPRET?

A

Color	Metal	Example compounds
Red	Strontium (intense red) Lithium (medium red)	$SrCO_3$ (strontium carbonate) Li_2CO_3 (lithium carbonate)
Orange	Calcium	$CaCl_2$ (calcium chloride)
Yellow	Sodium	$NaNO_3$ (sodium nitrate)
Green	Barium	$BaCl_2$ (barium chloride)
Blue	Copper	$CuCl_2$ (copper chloride)
Indigo	Cesium	$CsNO_3$ (cesium nitrate)
Violet	Potassium Rubidium (violet-red)	KNO_3 (potassium nitrate) $RbNO_3$ (rubidium nitrate)
Gold	Charcoal, iron, or lampblack	
White	Titanium, aluminum, beryllium, or magnesium powders	

B

C

19

POLL: WHICH INFO IS QUICKEST AND EASIEST TO INTERPRET?

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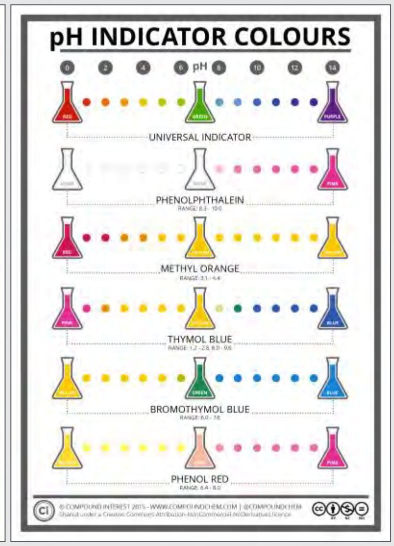
bit.ly/FireworkChemistry



bit.ly/FlameTests

bit.ly/pHIndicators

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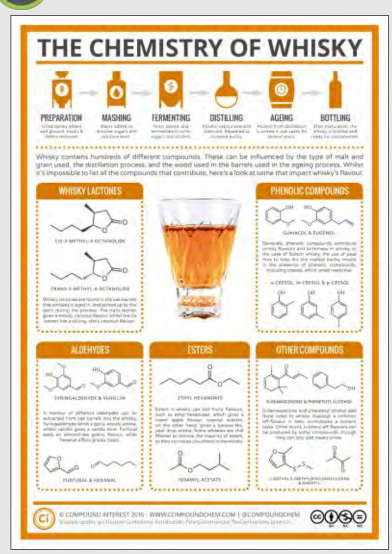

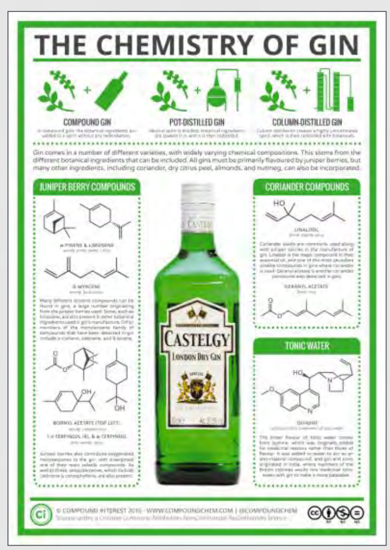

bit.ly/WhiskyChemistry

bit.ly/GinChemistry

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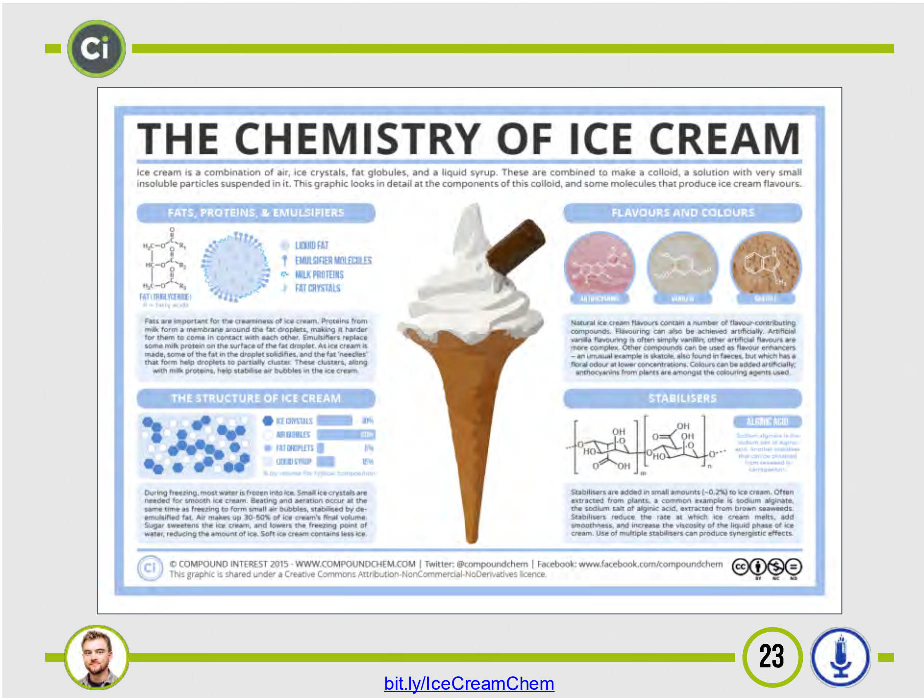
THE CHEMISTRY OF ICE CREAM
Ice cream is a combination of air, ice crystals, fat globules, and a liquid syrup. These are combined to make a colloid, a solution with very small insoluble particles suspended in it. This graphic looks in detail at the components of this colloid, and some molecules that produce ice cream flavours.
FATS, PROTEINS, & EMULSIFIERS
LIQUID FAT
EMULSIFIER MOLECULES
MILK PROTEINS
FAT CRYSTALS
THE STRUCTURE OF ICE CREAM
ICE CRYSTALS
AIR BUBBLES
FAT DROPLETS
LIQUID SYRUP
FLAVOURS AND COLOURS
STABILISERS
ALGINIC ACID
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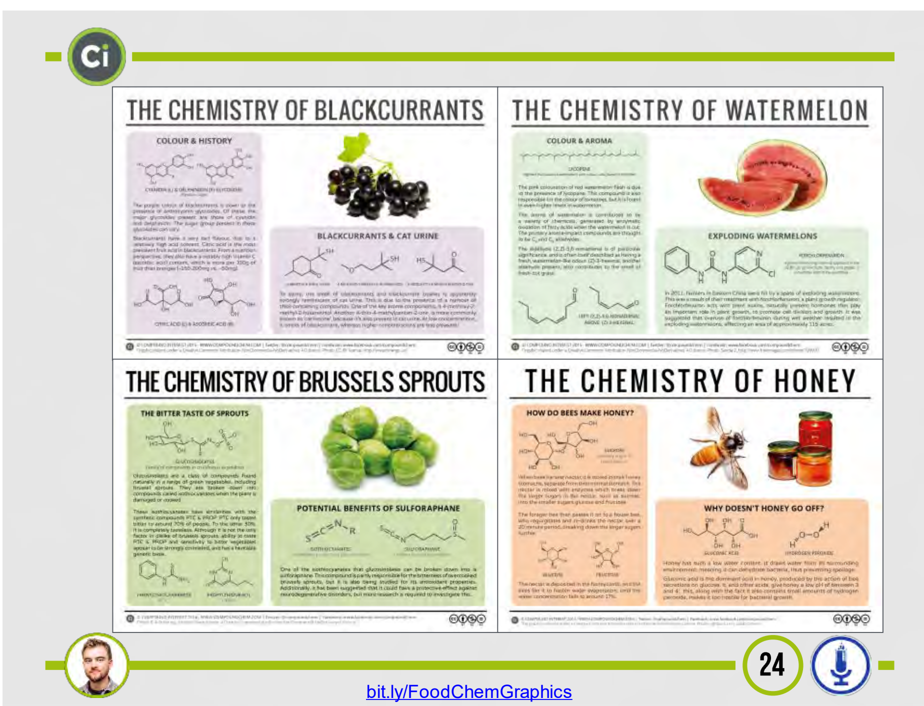
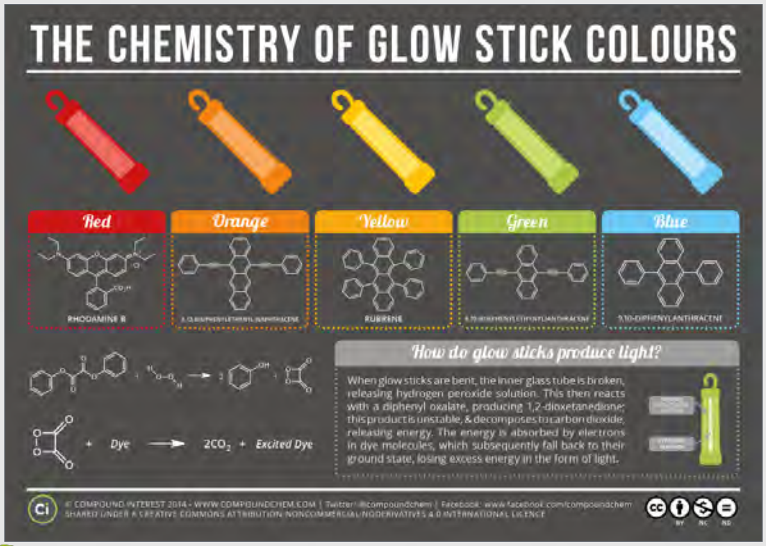
bit.ly/IceCreamChem


THE CHEMISTRY OF BLACKCURRANTS
COLOUR & HISTORY
BLACKCURRANTS & CAT URINE
THE CHEMISTRY OF WATERMELON
COLOUR & AROMA
EXPLODING WATERMELONS
THE CHEMISTRY OF BRUSSELS SPROUTS
THE BITTER TASTE OF SPROUTS
POTENTIAL BENEFITS OF SULFORAPHANE
THE CHEMISTRY OF HONEY
HOW DO BEES MAKE HONEY?
WHY DOESN'T HONEY GO OFF?
24
bit.ly/FoodChemGraphics



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bit.ly/GlowstickChem

26

bit.ly/SpotBadSci

bit.ly/ScientificEvidence

INFOGRAPHIC GUIDELINES

- Avoid 'long' infographics – **square or rectangular** dimensions work best.
- A general audience needs a '**hook**'.
- Good **balance** of text vs. images.
- Sensible use of **colour**
- Sensibly sized **text** – avoid lower than size 12 where possible.
- **Well-referenced information** – the #ICanHazPDF hashtag is a useful one on Twitter if you don't have access to particular journals containing studies of interest.
- **For general audience**: use technical terms sparingly, or accompanied by explanations.
- Consider **license** graphic will be shared under.

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AUDIENCE POLL: WHICH OF THESE RESOURCES ARE YOU AWARE OF?

pixabay

The Noun Project

PublicDomainPictures.net

FONT SQUIRREL
100% Free For Commercial Use.

WIKIMEDIA COMMONS

flickr

Adobe Color CC

A NONE B 1-2 C 3-4 D 5-6 E ALL 7

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INFOGRAPHIC RESOURCES

ChemDraw
Chemical drawing program. Also allows tweaking of appearance of chemical structures.

Adobe InDesign
Desktop publishing program. Other, free desktop publishing programs are also available online.

Pixabay
Very useful resource for public domain pictures (freely usable). publicdomainpictures.com is another.

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INFOGRAPHIC RESOURCES

Font Squirrel
Useful site for free font downloads. WhatTheFont.com allows image uploads to identify fonts.

Adobe Colour CC
Free online colour picker that will also automatically generate complementary colours or shades.

The Noun Project
Free icons for design projects. Most are CC licensed, though there are some public domain icons as well.

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TAKE-AWAY IDEAS

- Consider the use of **simple infographics** to help communicate chemistry topics or research.
- Make use of **free resources online** to help produce visual communications.
- **Avoid over-complication** – keep communication as jargon-free as possible, and don't over-crowd the design.

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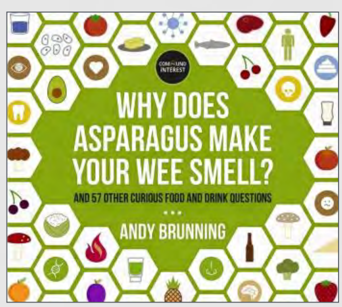

THE COMPOUND INTEREST BOOK

8 OCTOBER 2015 IN THE UK

EARLY SPRING 2016 IN THE US

Focusing on the chemistry of food and drink – clear chemical explanations for strange effects.

bit.ly/whydoesasparagus

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*"**Science Communication:** Visual Chemistry by Design"*

Adam Dylewski
Creator, ACS Reactions
Manager, ACS Productions

Andy Brunning
Creator, Compound Interest

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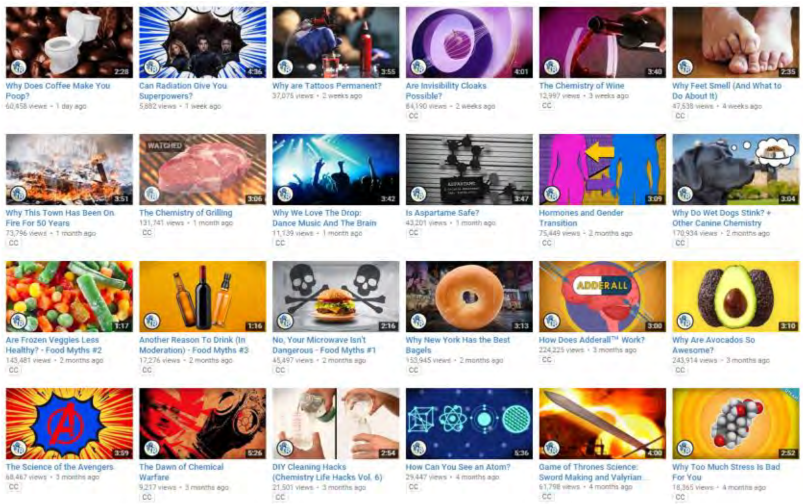
Check out Reactions Everyday Chemistry on YouTube !



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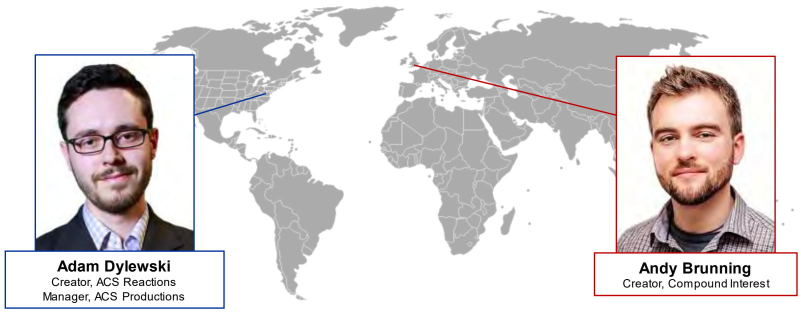

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