"Our Chemistry Galore, Oh Well.. At Least We Chemis-tried": Intersection Between Chemistry and Creative Work in an Anthology of Poems, a Short Story, and Playful Puns

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Introduction

"A sure way to kill conversation at a party is to confess that you are a chemist"
(Johnstone, 2000)

As students, we perceive chemistry as a challenging, intricate, and abstract field that demands exceptional intellectual abilities and considerable effort to grasp. Compared to other sciences, mastering chemistry often hinges on comprehending intangible and imperceptible concepts (Cardellini, 2012). The use of specialized language by chemists has always been a barrier for us to understand. Employing a highly elaborated alphabetic and symbolic language may be challenging for us to grasp (Sliwka, 2003). These aspects are part of the chemistry literacy that we need to develop. We are aware of this situation, and we are proposing a different approach in a more contextual environment through performing arts.

The intersection of arts and chemistry creates a powerful synergy, promoting literacy and enjoyable learning. Recent findings showed that artistic illustrations and poetry can serve as useful reflective tools in learning chemistry (Ilingworth & Radhakrishnan, 2023). Creative endeavors, inspired by imagination, inherently hold aesthetic value, adding to their beauty, and students can benefit from and enjoy art to convey concepts in chemistry (Furlan et al., 2007). They convey a variety of captivating stories that appeal to all readers, whether written or spoken. Ultimately, this initiative seeks to showcase an artistic expression where the language of chemistry is appreciated for its aesthetic qualities. We aspire for others to benefit from this publication, while simultaneously enhancing our own learning journey in the chemistry classroom. This educational project represents a unique blend of science, literature, and arts.

Part 1: A Short Story

In a storytelling setting, narrators utilize teaching probes and common daily materials:

Once upon a time in a bustling town, the enchanting world of chemistry revealed itself in everyday activities, seamlessly woven into the fabric of daily life. In the heart of the town, a quaint dairy farm produced the creamiest yogurt, a delectable outcome of the fascinating process of fermentation. Lactose, the magical ingredient, embarked on a transformative journey, breaking down into lactic acid and other by-products. This alchemical shift led to a decrease in pH, coaxing the coagulation of milk proteins. The symphony of science continued as casein proteins joined the dance, resulting in the birth of a thick and creamy texture that delighted taste buds far and wide.

Meanwhile, in bustling households, the chemistry of cleanliness unfolded. Detergent companies, like modern alchemists, optimized their concoctions, determining the perfect pH balance for cleaning effectiveness. Stains, like stubborn adversaries, surrendered to the power of alkaline conditions for dairy, blood, and odor, or acidic realms for ink and fruit juice. Surfactants, the unsung heroes of detergents, showcased their dual nature, repelling water from some stains and attracting it to others, ensuring clothes emerged victorious in the battle against dirt and grime.

On the outskirts of town, the production of medications revealed the medicinal prowess of hydrochloric acid (HCl). In laboratories, HCl controlled the pH of formulations and activated enzymes, crafting life-changing medicines. Enzymatic reactions orchestrated the intricate dance of medicinal substances, while HCl's extraction and purification prowess separated the desired from the unwanted. In the human body, the acidic embrace of stomach-produced hydrochloric acid enhanced the absorption and therapeutic effects of various drugs, a testament to the symbiotic relationship between chemistry and medicine.

Artistic expression found its place in town as well, where painters wielded brushes and pigments, creating masterpieces with the aid of chemistry. Pigments, binders, and solvents collaborated harmoniously. The pigments bestowed color, binders held them together, and solvents dictated the painting's consistency and drying time. Organic and inorganic compounds played their part, influencing visibility, lightfastness, and other characteristics. Even the humble turpentine, a solvent, stepped onto the stage, dissolving paint and cleansing brushes in a chemical ballet.

Last but not least, oral health became a daily ritual, a canvas for the marvels of fluoride. In every toothpaste, this chemical guardian fought valiantly against tooth decay. Enamel, the fortress of teeth, stood strong with its composition of hydroxyapatite and phosphate ions. Fluoride, a loyal ally, engaged in a dance of remineralization, replacing hydroxide ions in hydroxyapatite. The result: strengthened enamel, resilient against the acidic onslaught from the foods and beverages of daily life.

And so, in this charming town, the chemistry of everyday life unfolded, revealing the magical tapestry that binds science to our daily routines.

Closing: The narrator performs a chemical reaction that resembles a magic trick.

Part 2: An Anthology of Poems

Performed in front of the class by two students (male and female), the poems explore the intricate dance of molecules, the wonders of hydrocarbons, and the chemistry of love. From the catalysts of time to the functional groups of passion, each poem encapsulates the essence of chemistry in a lyrical form.

Opening with relevant background music:

‘’*In the lab, chemical reactions, like love, are profound.*
Between you and me, fate has bound,
Like molecules, our feelings compound.
Let's hear the sound …”

Chemical Love Story

In the laboratory, oxytocin, dopamine, and serotonin unfold,
A canvas of chemistry, our story to be told.
Hydrocarbons, catalysts, reactions entwine,
In the dance of molecules, a universe to define.

So, raise a flask to the elements' art,
In the alchemy of chemistry, where wonders start.
Hydrocarbons, building blocks of creation,
In the grand design, a poetic foundation.

One by one, in a chemical array,
Days unfold, reactions in play.
Mend the bonds, let atoms sway,
Stories of elements in molecules relay.

Concerns of tomorrow, for now, withhold,
In the flask of today, love has no control.
A catalyst of time, together we are gold,
Chemical love tales, in high school solutions mixed but untold.

Hydrocarbon Harmony

In the world of tiny things, where atoms play,
There's a cool science dance, happening every day.
Hydrocarbons are like the VIPs in the crowd,
Carbon and hydrogen, making us feel proud.

Imagine them as best buds, always hanging out,
Alkanes are the chill crew, no room for doubt.
Methane, ethane, propane, just going with the flow,
Keeping it simple, they're the cool kids we know.

But wait, there's more, the alkenes bring the vibe,
Double bonds rocking, taking a lively stride.
Butene, propene, and ethylene in the mix,
Spicing up the party, getting their kicks.

Now, picture a fancy circle, that's the benzene ring,
Aromatic and sweet, like the songs we sing.
Benzene, toluene, a fragrance in the air,
Chemistry got style, no need to compare.

Hydrocarbons aren't just hanging out for fun,
They're the power behind engines, getting things done.
Gasoline, diesel, making cars zoom,
Hydrocarbons, the fuel in every room.

Plastics and fibers, in the cool chemistry lab,
Hydrocarbons making stuff fab.
Polyethylene, polyester, and more,
Building the future, that's what they're for.

So, in the high school chemistry class, give a cheer,
For hydrocarbons, the stars we hold dear.
They're the cool cats in the science show,
In the dance of molecules, C_nH_{2n} steals the glow.

Love's Chemistry Mixture

In the heart lab, love's kickin' in,

A chemical groove, where feelings begin.
Sweet attraction, like a cozy hug,
Hydrogen vibes, pullin' hearts like a snug.

Oxygen's stare, makin' it breathless and deep,
Love bonds forming, secrets to keep.
Water-like love, so pure and clear,
In this chemistry class, something special appears.

But love's molecule, it's kinda wild,
Functional groups, got us beguiled.
Esters of passion, in every sweet glance,
Aldehyde kisses, a sweet glucose trance.

Alcohol moments, we're feeling so light,
Love's elixir, sippin' through the night.
Joyful amines, neural connections strong,
Functional groups of love, where we belong.

From chill days to exciting nights,
Love's chemistry, a crazy ride, all right.
Bonds getting stronger, reactions bloom,
In the chemistry lab, we make it kaboom.

So, let the molecules of love get in sync,
Hearts in a symphony, a vibe that'll make you think.
Atoms dancing, passion unfurls,
Love's chemistry mix, the magic of the world.

Chem Class Vibes

General formulas, like secret decoder rings,
Cracking the code, as knowledge springs.
Alkanes, alkenes, doing their thing,
In the formula dance, each one takes a swing.

Carbonyl coolness in ketones and aldehydes,
Reactivity rules, where the science guides.
Esters and carboxylic acids, partners in crime,
In the chemistry journey, a thrilling climb.

In class, we mix things up, create a potion,
Test tubes, goggles, in constant motion.
Acids and bases, in a pH quest,
Chemistry adventures, putting us to the test.

Functional groups, the unsung heroes,
In the molecular drama, where excitement flows.
Double bonds, triple bonds, making a scene,
Chem class magic, where dreams convene.

Part 3: Playful Puns

Incorporate chemistry puns into presentations or speeches, especially if they relate to scientific topics. This can lighten the mood and engage your audience. They can be used to overwhelm others with amusement. With a bit of creativity, these are the chemistry puns:

Question : What did toluene and benzene have the other night?
Answer : Aromatic night

Question : Chemistry has given me alkynes of problems.
Answer : But, I know I am tri-ene. My soul has di-ene side. Bye cruel world..

Question : Apple took over Asgard, guess who’s the king now?
Answer : iOdin

Question : What do you call one gram of H in space?
Answer : Mercury

Question : What kind of ghost haunts the chemistry lab?
Answer : Spirit lamp

Question : What class of organic compounds kill soldiers in a warzone?
Answer : Amine

Question : What do you say to a person that calls you when you can't pick up his call?
Answer : Collagen

Question : Son : Mom, I want to have a girlfriend.
Answer : Mom: Then “You should give a chem ! “(Chem is 'try’)

Question : Are you water?
Answer : Because you filled 70% of my heart.

Question : Why is Oxygen so happy in water?
Answer : Because it's got 2 hydrogens kissing both its cheeks.

Question : Sulfur and Oxygen don't go well together.
Answer : SO?

Question : What happened to your charge? Are you positive that you lost an electron?
Answer : I'm positive

Question : Oxygen and Hydrogen can bind, you know.
Answer : OH.

Question : He looked pretty noble and stable,
Answer : Until he hit his neon table.

Question : Are you copper?
Answer : Because I can Cu in our future.

Question : Why did the chemist and mathematician go to a bar?
Answer : To find a solution and their x.

Question : Neon never liked jokes,
Answer : He never reacted to any.

Question : Why did the alkene go to therapy?
Answer : It needed help dealing with its double bonds.

Question : Why did the acid break up with the base?
Answer : I was tired of the constant arguments—they were just too basic.

Question : Why do organic chemists make excellent chefs?
Answer : They know how to balance a perfect molecular gastronomy!

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