



**THE UNIVERSITY OF MELBOURNE
MD STUDENT CONFERENCE
PUZZLES**

Act I, Scene 2 **BODMAS Index**

(Note: the story is not part of the puzzle)

The rain fell lightly on the window outside of Jared's bedroom. Specks of rain formed drops and then teardrops, before waltzing haphazardly as rivulets down the pane, resembling tendrils of chaotic hair. Inside the glass, a solitary desk lamp, carrying an incandescent light bulb on the verge of petering out, sought but struggled to illuminate the bedroom.

"Viral replication involves a series of stages: attachment, entry, uncoating, genome replication, gene expression, assembly, and release. In attachment—"

Jared paused the YouTube video, and the narrator that had once filled the room with her slightly inauthentic Cali accent — sped up to 2x speed, of course — was swallowed by the sound of silence.

Nervously, Jared began his incantation once more:

"Attachment, entry, uncoating, gene expression, genome replication, assembly, relea— no, wait. Genome replication has to come before gene expression. Attachment, entry, genome replication, gene expression, and then..."

Jared paused to stare at the ceiling. A ceiling fan that had been in motion in lazier times lay dormant, collecting dust. In the shadowed corners of his dimly lit room, he could not tell anymore if the cobwebs that were teeming with activity were a mere figment of his delirious imagination.

"No, no, I've forgotten something. I've forgotten about uncoating. So it's attachment, assembly, uncoating, gene expression, ah fu—"

Jared thumped his head into the table, as if bobbing for apples. He hurled a string of expletives as if he were underwater and could not be heard. Except he wasn't underwater. And could be perfectly heard in every single corner of his house.

"I need a break."

And so, for the fourth time in an hour, Jared grabbed his phone and swiftly transferred from chair to bed.

Messenger - no new messages. Facebook - no new notifications. Instagram - no new stories. Even YouTube and his myriad of subscriptions had betrayed him. Unless...

Curiously, he cast his mind back through the day's events and landed on the TikTok that his friend Nick had sent earlier in the day.

"Hm, it can't be that bad, can it?"

And thus the true procrastination began.

(To be continued...)

BODMAS Index

- a = cell surface glycoprotein found on most cytotoxic T lymphocytes
- b = enzyme responsible for cleaving von Willebrand factor
- c = the precursor form of k
- d = fava beans are contraindicated in this deficiency
- e = enzyme that binds tissue factor after vascular injury
- f = enzyme deficiency in haemophilia B
- g = tumour marker for ovarian cancer
- h = tumour marker for pancreatic cancer (less than g)
- i = intermediate product between cholecalciferol and calcitriol
- j = most common enzymatic deficiency in congenital adrenal hyperplasia
- k = the 'active' form of thyroid hormone generated through the action of deiodinases
- l = score used to estimate mortality of community-acquired pneumonia
- m = coenzyme that carries electrons from complexes I and II to complex III
- n = defining lesion in Edwards Syndrome
- o = type of diabetes in patients with chronic pancreatitis, cystic fibrosis, or pancreatic resection
- p = tumour marker for breast cancer (less than h)
- q = deficiency of this causes beriberi
- r = primary metabolite of serotonin
- s = virus responsible for slapped cheek syndrome
- t = disease responsible for shutting the world down in 2020 and 2021

$$\left(\frac{a^{(b-c-d)} \div (e+f) \times g \times [h] - \frac{j}{k}}{i} \right) \times \left(\left((l-m-n) \times (o+[p]) + q \right) \times r \right) - \frac{s}{t} = \underbrace{\quad}_{?} \underbrace{\quad}_{?} \underbrace{\quad}_{?} \underbrace{\quad}_{?} \underbrace{\quad}_{?} \underbrace{\quad}_{?}$$