



Hole #1: Putt It Together - The Remdesivir Structure Challenge Sponsored By Gilead Sciences

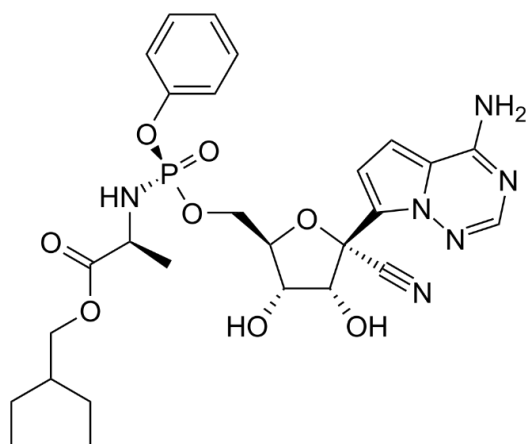
Remdesivir is a molecule currently being evaluated for the treatment of COVID-19 and is manufactured at Gilead's Edmonton site. The structure of it is shown below, both in a 2D representation (on the left) and a 3D representation (on the right). Chemists often need to build models of their molecules to visualize how it behaves in reactions or interacts with its biological target like the nasty COVID-19 virus!

To complete this challenge, you have two options:

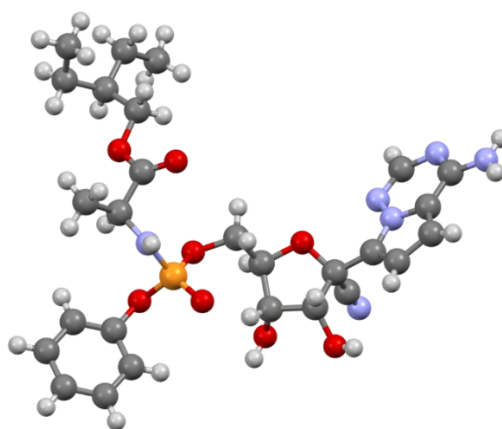
1. Build the Remdesivir molecule using the instructions below, and the toothpicks and playdough supplied in your goodie box. Feel free to use what's in your cupboard if needed! Share photos from a couple of different angles so we can see the full effect.
PRIZE: Tabletop Patio Heater (Value \$170)
2. Tell us what you see when you look at the 3D representation of Remdesivir. It's like gazing at the clouds while you're waiting to tee off! Photo submissions are welcome but not required.
PRIZE:

#CCFVirtualGolf #Hole1 @GileadSciences

2D Structure



3D Structure



<https://en.wikipedia.org/wiki/Remdesivir>

<https://www.acs.org/content/acs/en/molecule-of-the-week/archive/r/remdesivir.html>



Chemist hints for non-chemists!

- All atoms are typically given the same colour in models for ease of identification
 - Grey = carbon, shown as "C" in the left model
 - White = hydrogen, labeled as "H" in the left model (No need to include Hydrogen in your model!)
 - Blue = nitrogen, labeled as "N" in the left model
 - Purple = phosphorus, labeled as "P" in the left model
 - Red = oxygen, labeled as "O" in the left model
- Carbon atoms (the grey balls on the 3D structure) are not often drawn in 2D structures (the picture on the left) as a "C" for clarity, but they are there!
- The number of bonds (i.e. toothpicks) between atoms (i.e. playdough) is very important to us chemists! Here's a quick guide to the structure on the left, with a primer on the next page:
 - One line between atoms is a single bond
 - Two parallel lines are double bonds (needs two toothpicks)
 - Solid wedged lines are single bonds coming out of the page towards your eyes
 - Dashed wedged lines are single bonds going away from your eyes (i.e. the atom at the end is below the plane of the paper)

