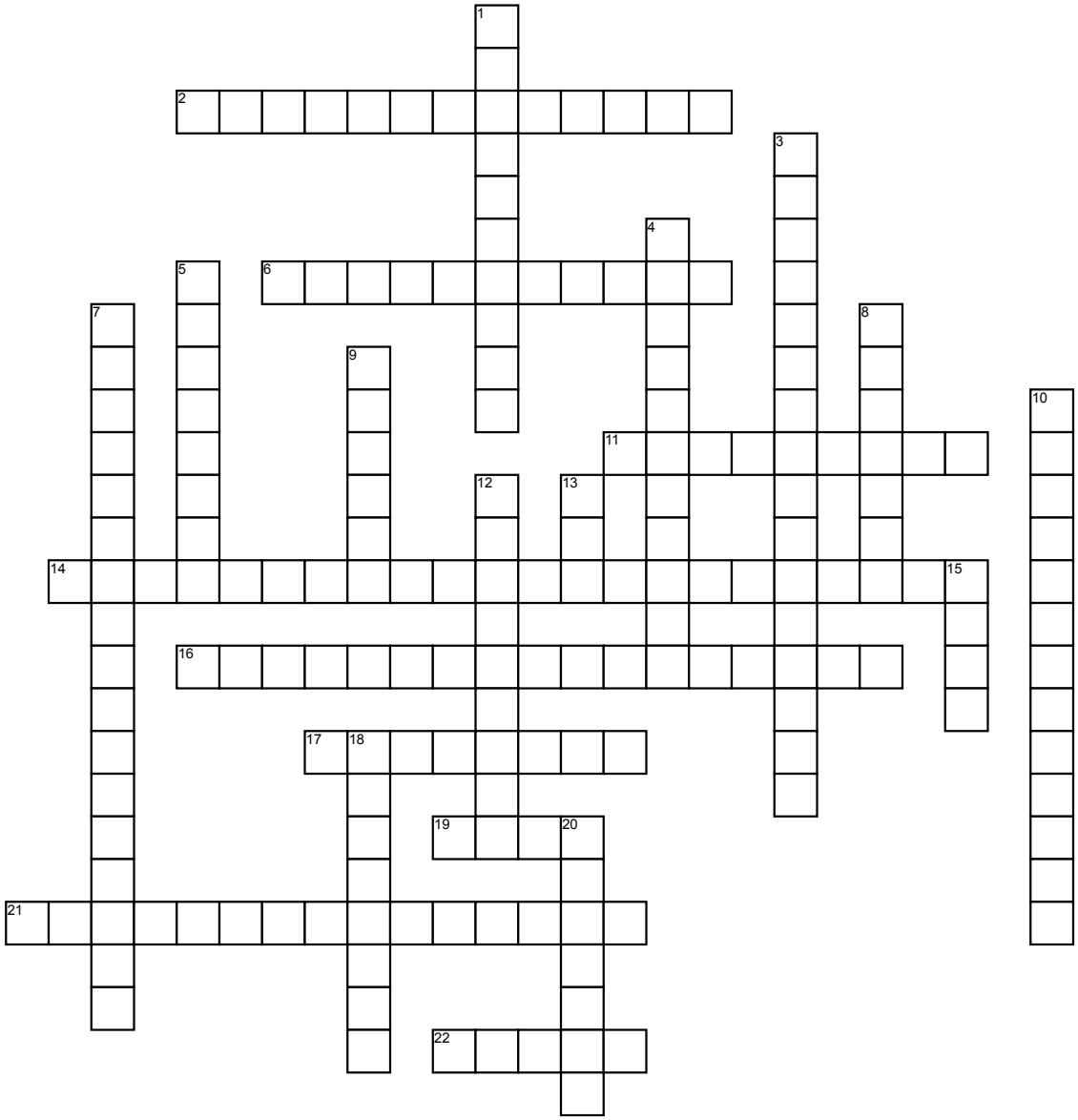
Name: _____

NMR Crossword



Across

2. The two magnetic fields in an NMR spectrum are made to be _____ to each other to maximize the NMR signal strength (13)
6. method used to allow us to measure the relative intensity of the signals in the spectrum (10)
11. One of the two American scientists who developed NMR in 1945 (9)
14. Technique for solving problems in the planning of organic synthesis (22)
16. The standard used for NMR spectroscopy (16)
17. Isotope of Carbon that is inactive for NMR (8)
19. A method used alternatively to determine the number of hydrogens on a given carbon atom (4)
21. NMR active nuclei (such as 1H or 13C) absorb _____ radiation at a frequency characteristic of the isotope when it is placed in a magnetic field (15)
22. The number of different hydrogen environments in 4,4-dimethyl-2-pentanone (5)

Down

1. NMR was first described and measured in molecular beams by _____ in 1938 (10)
3. Have signals that appear at relatively high field (16)
4. The number of Carbon-13 signals in the molecule HEPTANE (11)
5. NMR spectrometers have 3 basic parts: a large magnet, a transmitter, and a _____ (8)
7. The type of hydrogens which are seen upfield (18)
8. A constant which consists of the value 6.626 x 10-34 J s (7)
9. Defined as "A particle of light" (6)
10. Term used to describe signal positions (13)
12. How many carbon-13 signals does Progesterone display? (9)
13. The use of NMR of protons that are used to create images of anatomy and physiological processes of the body (3)
15. Nucleons composing an atomic nucleus have this intrinsic quantum property (4)
18. Which compounds occupies the region from 6.5 - 8.0 ppm (8)
20. Signals that are made up of 3 lines, in a ratio of 1:2:1 (7)