# Researchers explore potential for AI in biomedical science

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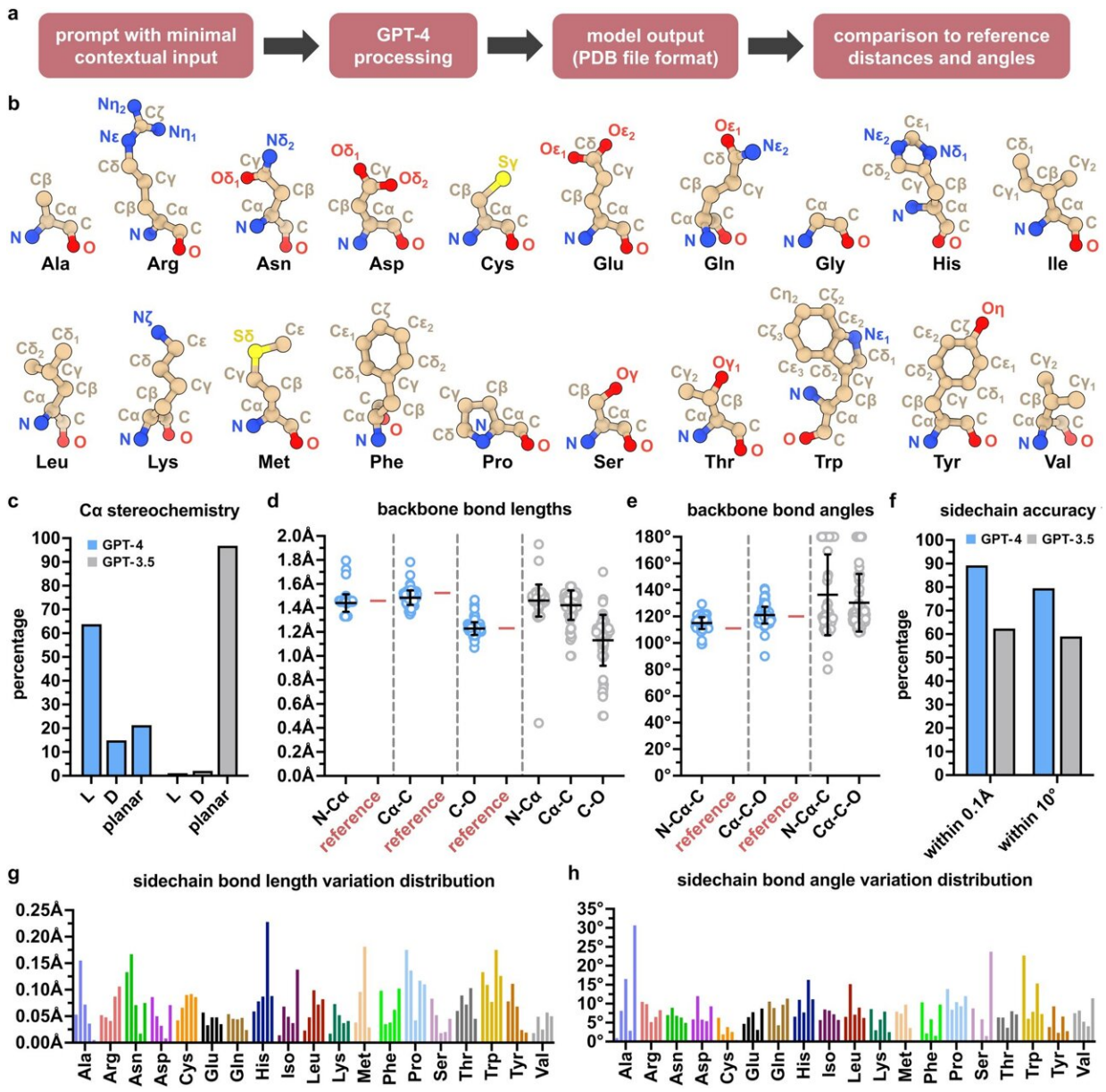

Modeling the 3D structures of the 20 standard amino acids with GPT-4. Credit: *Science Reports* (2024). DOI: 10.1038/s41598-024-69021-2

Generative artificial intelligence (AI) powered by human language has made remarkable progress and gained widespread use through tools such as ChatGPT. While it is mostly known for helping with reading and writing, scientists are starting to explore how this type of AI can be used in research.

In a recent study, Rutgers researchers, including from Rutgers Cancer Institute and RWJBarnabas Health, show that generative AI can model basic biological structures, like amino acids (the building blocks of proteins) and a loop-like structure commonly found in proteins. The study was published in *Scientific Reports*.

Researchers also found that generative AI can analyze the way a drug and its target protein interact. These capabilities are still in an early stage but are poised to evolve alongside the rapid advancement of generative AI technology, paving the way for potential applications in the biomedical sciences, including cancer research.

Wadih Arap, MD, Ph.D., director of Rutgers Cancer Institute at University Hospital and Renata Pasqualini, Ph.D., chief of the Division of Cancer Biology at Rutgers New Jersey Medical School and Rutgers Cancer Institute researcher are senior authors of the study. Other authors include Alexander M. Ille, Ph.D.; Christopher Markosian, MD/Ph.D. student, Stephen K. Burley, MD and Michael B. Mathews, Ph.D.

**More information:** Alexander M. Ille et al, Generative artificial intelligence performs rudimentary structural biology modeling, *Scientific Reports* (2024). DOI: 10.1038/s41598-024-69021-2.

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