# Article information:

The role of ligand efficiency metrics in drug discovery | Nature Reviews Drug Discovery
<https://www.nature.com/articles/nrd4163>

# Article summary:

1. The physicochemical properties of small-molecule drugs are concentrated in a narrow range known as "drug-like" space, and certain properties like lipophilicity and hydrogen bond donor count have remained constant in oral drugs over time.

2. Investigational drugs over the past three decades have become more lipophilic, larger, and less three-dimensional than approved oral drugs, which can lead to higher attrition rates at each stage of clinical development.

3. Monitoring and optimizing ligand efficiency metrics instead of potency alone can help remedy the overemphasis on potency and associated tendency to inflate physicochemical properties in drug discovery. Ligand efficiency metrics quantify how effectively a molecule uses its structural features in binding to the target.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了配体效率指标在药物发现中的作用。然而，该文章存在一些偏见和不足之处。

首先，该文章没有充分考虑到药物发现过程中的复杂性和多样性。药物发现是一个复杂的过程，涉及到多个因素，如药物靶点、生理环境、代谢途径等。因此，在选择合适的化合物时，不能仅仅依赖于配体效率指标。

其次，该文章忽略了药物研究中的风险和不确定性。虽然配体效率指标可以帮助筛选出更有效的化合物，但并不能保证这些化合物在临床试验中一定会成功。因此，在进行药物研究时需要平衡风险和收益，并进行全面评估。

此外，该文章可能存在宣传内容和偏袒行为。虽然配体效率指标可以提高药物研究的效率和成功率，但并不意味着其他方法就没有价值。因此，在报道时应注意平等地呈现各种方法和观点。

总之，尽管配体效率指标在药物研究中具有重要作用，但需要充分考虑其局限性和不确定性，并进行全面评估。同时，在报道时应注意客观、公正和平等地呈现各种观点和方法。

# Topics for further research:

* Complexity and diversity in drug discovery
* Risks and uncertainties in drug research
* Balancing risk and reward in drug development
* Importance of considering multiple methods and perspectives
* Limitations and uncertainties of ligand efficiency metrics
* Need for objective and unbiased reporting in drug research.

# Report location:

<https://www.fullpicture.app/item/41e9d7c41926e5a8ff2bb8ad4c432e5c>