

# Bringing Chemistry to Life podcast series

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## Season 3: The 2021 C&EN's Talented 12 Episode 8: Drugging the undruggable



### Episode abstract

Chemical biology is a relatively recent discipline that offers a new lens to observe, interact with, and alter biological phenomena. Chemistry opens the possibility to understand and alter biomolecules at the atomic level, ultimately influencing macroscopic biological phenomena.

Dr. Shanique Borteley Alabi has been thinking about how chemicals can influence humans ever since childhood observations of her grandfather at work in his pharmacy, in Ghana. She now uses chemistry to influence the interaction between cellular proteins by designing small molecules that work as “glues” for macromolecules.

She spent her PhD developing “proteolysis targeted chimeras” (ProTaC), the use of small molecules with affinity for both a specific protein target and for kinases that tag proteins to initiate their degradation. She now works on similar concepts to selectively initiate and promote the interaction between natural proteins with the objective of amplifying specific natural pathways to treat disease. This is the frontier of drug development, going beyond simple competitive inhibition and promising a way to develop drugs for undruggable targets.

### About our guest

#### Shanique Borteley Alabi, PhD

Scientist at Monte Rosa Therapeutics

Shanique's company site: <https://www.monterosatx.com/>

Shanique's last group site: <https://crewslab.yale.edu/>

and <https://scholar.google.com>

[citations?user=omSubeEAAAAJ&hl=en](https://scholar.google.com/citations?user=omSubeEAAAAJ&hl=en)

C&EN Talented 12 profile of Shanique: <https://cen.acs.org/pharmaceuticals/Shanique-Borteley-Alabi/99/i30#>

### Shanique's Recent Publications

- [Major advances in targeted protein degradation: PROTACs, LYTACs, and MADTACs](#)
- [Androgen receptor degradation by the proteolysis-targeting chimera ARCC-4 outperforms enzalutamide in cellular models of prostate cancer drug resistance](#)
- [Mutant-selective Degradation by BRAF-targeting PROTACs](#)
- [Novel Mechanisms of Molecular Glue-Induced Protein Degradation](#)

### Shanique's Content Recommendations:

- [Sula](#) (A book by Toni Morrison)
- [The Bluest Eye](#) (A book by Toni Morrison)
- [This American Life](#) (A podcast)
- [The Hidden Brain](#) (A podcast)
- [King Promise](#) (An Afrobeats musician)

This podcast series is available via the following links



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