

Bound! New Protein-Drug Matching Card Game from the CCDC and PDB-101

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Bound! is a card game for students 12 and up where players compete to match the most drugs to their protein targets. The game was created as an educational tool to highlight some structures at the intersection of two databases; the Cambridge Structural Database (CSD) and the Protein Data Bank (PDB) as well as introduce the concepts of drug and protein interactions. The Bound! card deck features 15 unique pairs of drugs and proteins with which they interact. There are six different card types that encompass three varieties of target-drug pairing: Cancer to Anticancer, Bacteria to Antibiotic, and Virus to Antiviral. The cards can be also used to play various memory games. Each pair is represented twice in the deck for 60 cards total.

Each of the protein target cards shows one structure from the PDB, while each of the drug cards shows one structure from the CSD. Game downloads and detailed information about these structures can be found at CCDC (<https://www.ccdc.cam.ac.uk/Community/educationalresources/protein-ligand-card-game/>) and PDB-101 (<http://pdb101.rcsb.org/learn/other-resources/bound-game>).

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Figure 1