



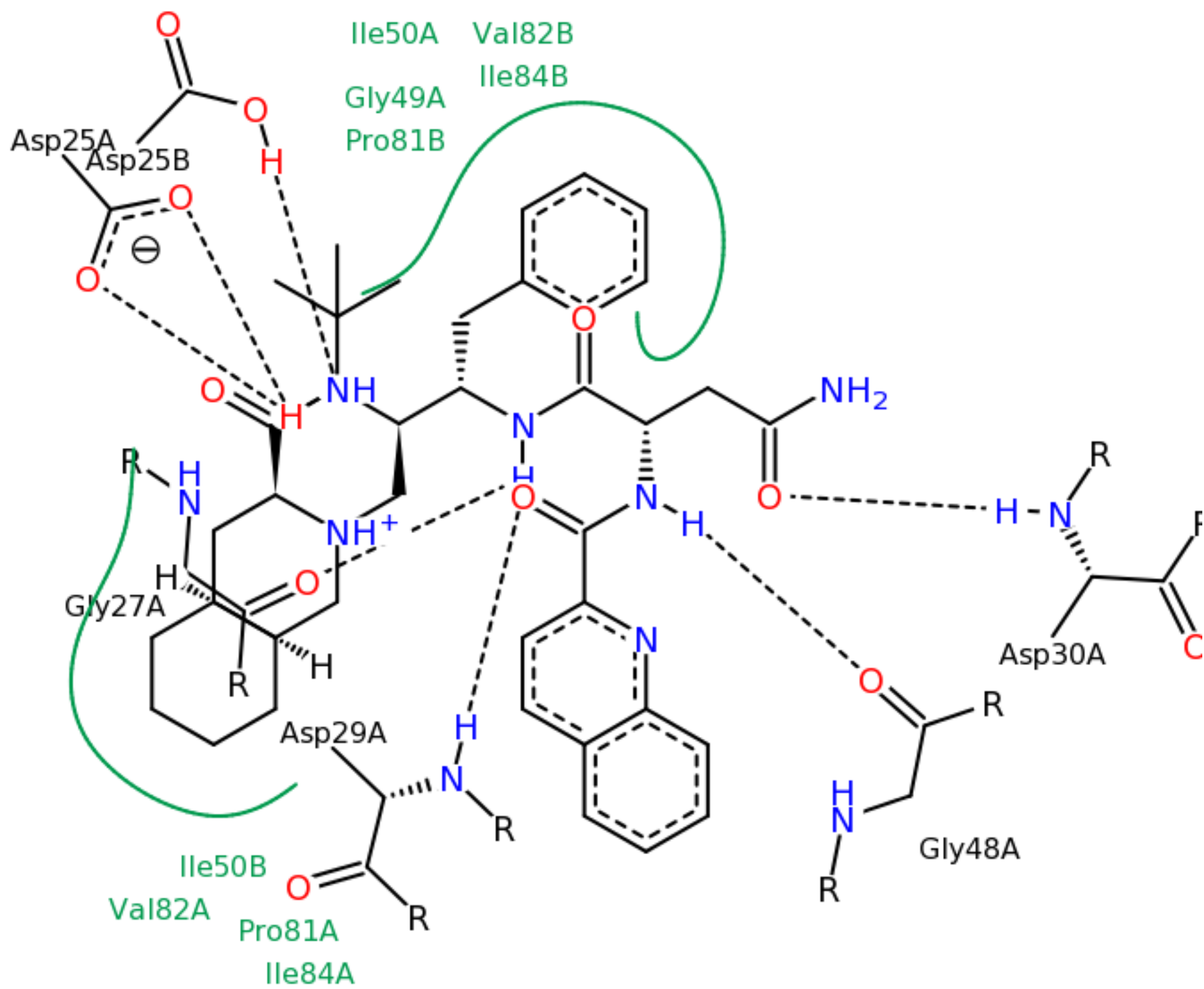
**Most drug-target interactions are nonvalent**

- The interactions driving drug binding are primarily
  - steric - van der Waals. atoms like to be close but not *too* close.
  - electrostatic - like charges repel and opposite charges attract. H bonding often treated as electrostatic.

- Water can play an important role.

- Some drugs (like penicillin) bind to their targets covalently.



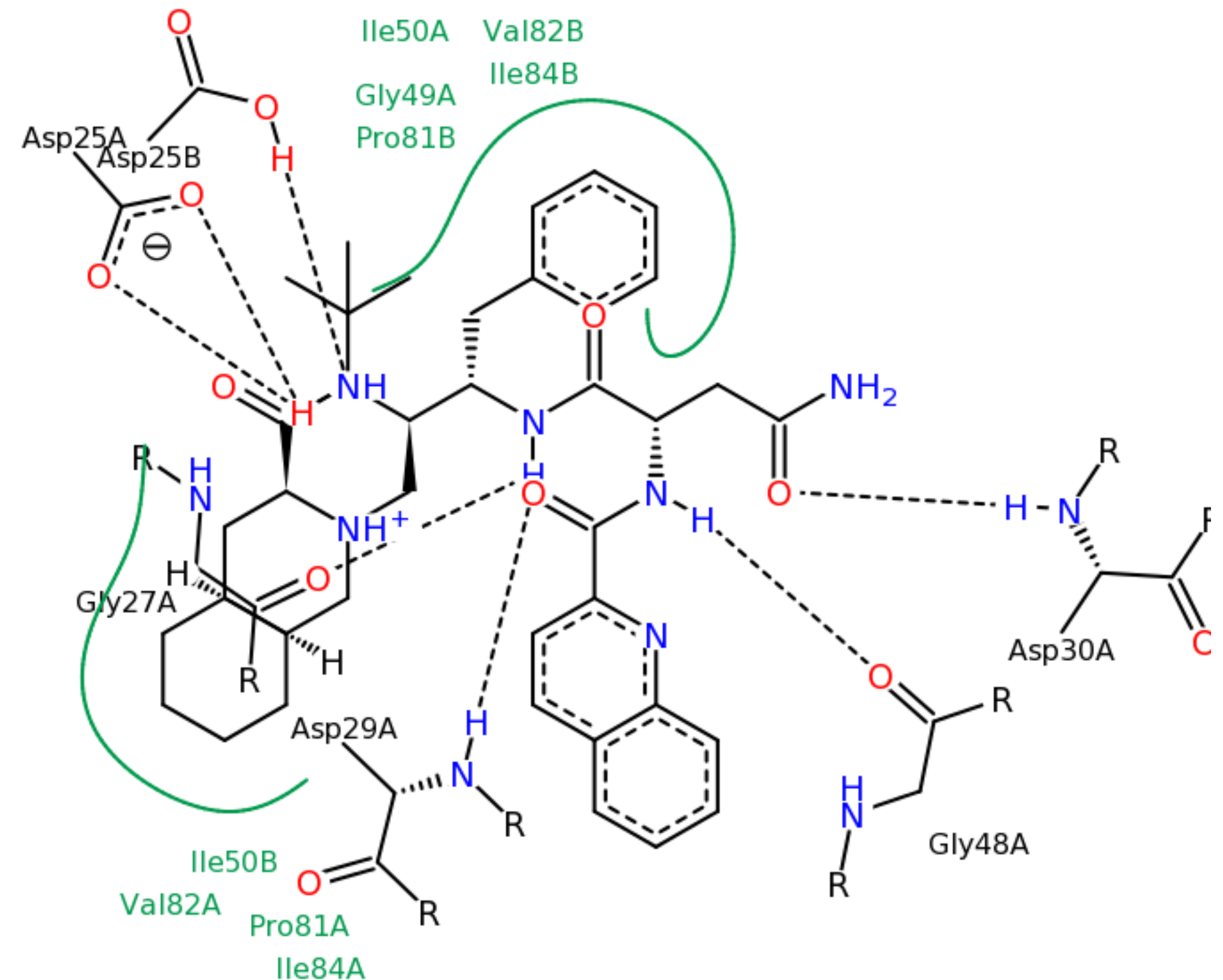


[http://www.rcsb.org/pdb/101/motm\\_disused\\_entry.do?id=1hxb](http://www.rcsb.org/pdb/101/motm_disused_entry.do?id=1hxb)



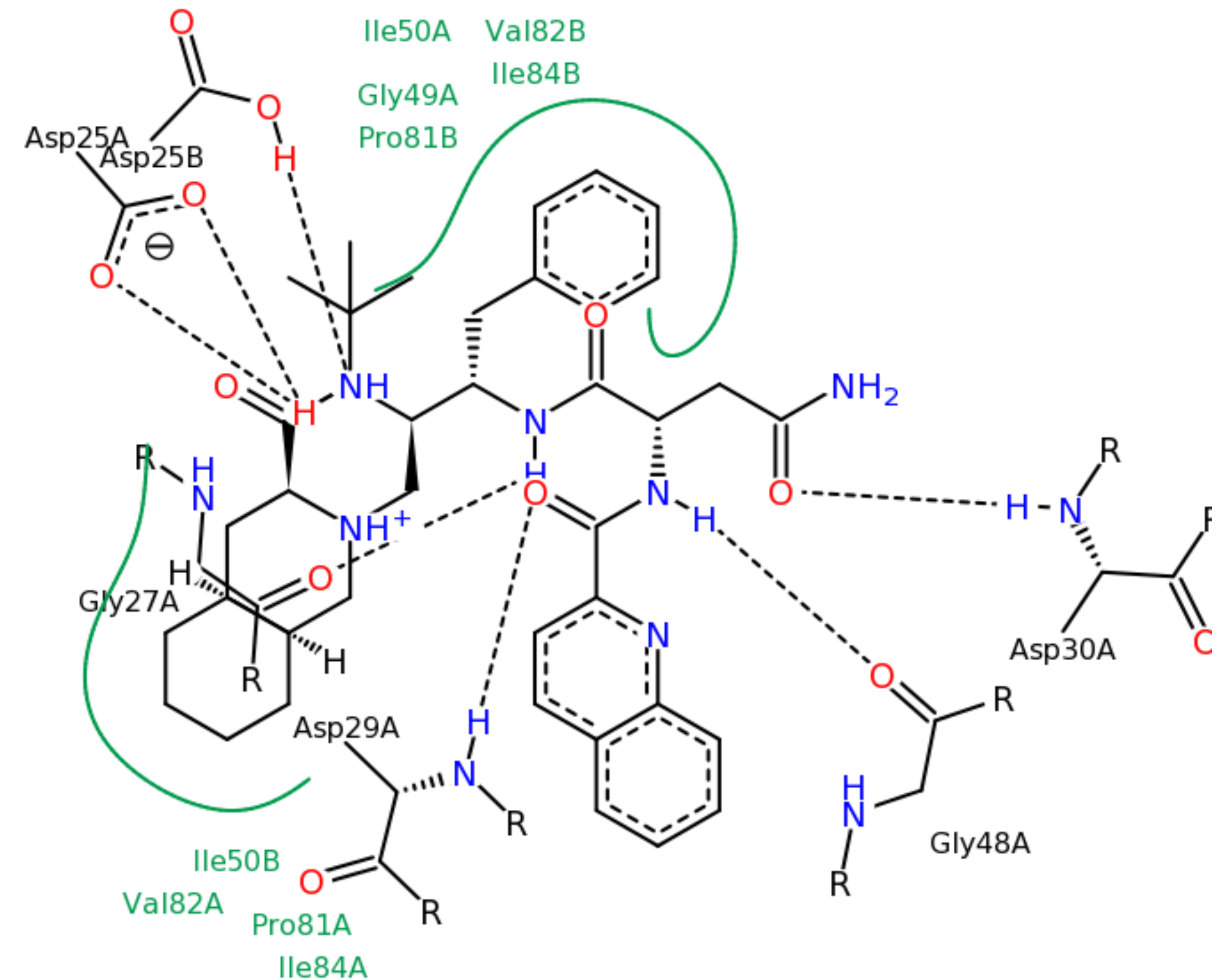
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# Drugs can be designed to optimize interactions



[http://www.rcsb.org/pdb/101/motm\\_discussed\\_entry.do?id=1hxb](http://www.rcsb.org/pdb/101/motm_discussed_entry.do?id=1hxb)