

```
build_seal.py → SEAL.json (SHA256 pinned)
      ↓
compute.py    → out/results.json {E1_eV, a_H}
      ↓
verify.py     → R7/R8 1% checks, exit(0|1)
├─ --gate-off EM_c|JIN|Gamma3 (negative controls)
  └─ hash pre/post + pin match
      ↓
platform_log.py → cross-platform CSV
```