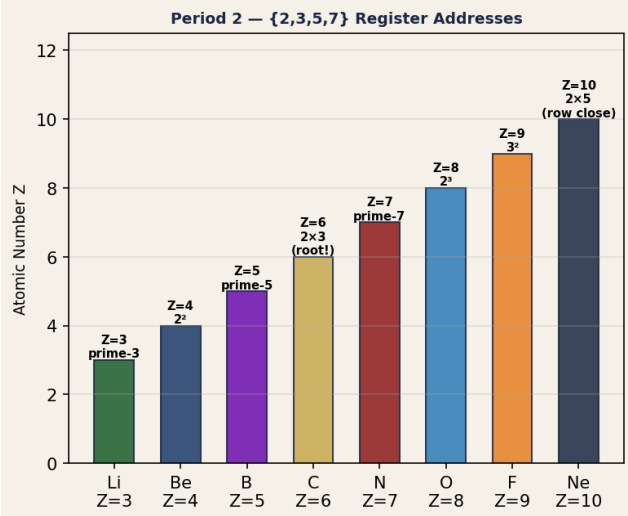
The Second Row Ladder

Period 2 Elements as a Tau-Register Sequence: Li → Ne

The eight elements of Period 2 (Lithium through Neon) are not arbitrary. In UFOT, each occupies a distinct Tau-register address determined by its atomic number expressed in the {2,3,5,7} lattice. The Second Row Ladder (P-ROW) maps each element to its register, its bond character, and its role in the biological lattice. Carbon (Z=6=2×3) is the FOT root element — the only pure {2,3} composite in the row.



Second Row Ladder — Register Properties

Element	Z	Lattice Form	FOT Role
Li	3	prime-3	Alkali T_P seed; ionic regist
Be	4	2²	Structural metal; D=−1 shell
B	5	prime-5	Electron-deficient; bridge eler
C	6	2×3	ROOT ELEMENT: only pure {2,3}
N	7	2³−1	Junction element; prime-7 boun
O	8	2³	Pure {2}; T_λ→T_E interface ele
F	9	3²	Highest electronegativity; {3}
Ne	10	2×5	Noble: row closure = DNA base

Figure 1. Left: Period 2 elements with Z-values and lattice factorisation. Right: complete register property table. Carbon (Z=2×3) highlighted as root element.

Period 2 Register Assignments

P-ROW-1 — Lithium — Z=3 (prime-3) — Alkali Seed

Li occupies the prime-3 register. It is the alkali seed for ionic T_P propagation. Li^+ radius = 76 pm ≈ 4×19 pm (boundary case, not a pure {2,3,5} node). Lithium is the lightest metal — its D-level address is the prime-3 minimum of the metal register.

P-ROW-2 — Carbon — Z=6 = 2×3 (Root Composite)

Carbon is the only element in Period 2 with a pure {2,3} atomic number. Z=6 = 2×3 occupies the fundamental lattice node — the product of the two seed primes. All life is carbon-based because Z=6 is the {2,3} root: no other even Z in Period 2 factors purely to {2,3}. Carbon's four bonds = four lattice arms (2^2 arms, each in the {2,3} product register).

P-ROW-3 — Nitrogen — Z=7 (Prime-7 Boundary)

N is the prime-7 disruptor in the biological lattice. Z=7 = 2^3-1 sits at the boundary between two D-levels. Prime-7 destabilises at the cellular level (cancer driver via Balmer n=5 entry). Nitrogen enters the Balmer ladder at $n^2-4 = 21 = 3\times7$ (n=5). This is the exact entry point for the cancer register disruption mechanism (P-CANC).

P-ROW-4 to P-ROW-6 — O, F, Ne

O: Z=8 = 2^3 — pure {2}. Water-former. T_λ-to-T_E interface element. The 2^3 factorisation gives oxygen its two lone pairs (2 bonding + 2 lone = 4 = 2^2) and its register at the octave of the {2} lattice.

F: Z=9 = 3^2 — pure {3}. Highest electronegativity (3.98 Pauling) reflects the highest {3} prime register in Period 2.

Ne: Z=10 = 2×5 — row closure. Noble gas (full T-register shell). 10 = base-pairs per DNA turn. Row closure at 2×5 mirrors the DNA structural constant.