5 G H Foundation

Incorrect Data in 10.3389/fchem.2024.1386311

Several errors are found in this article [1]:

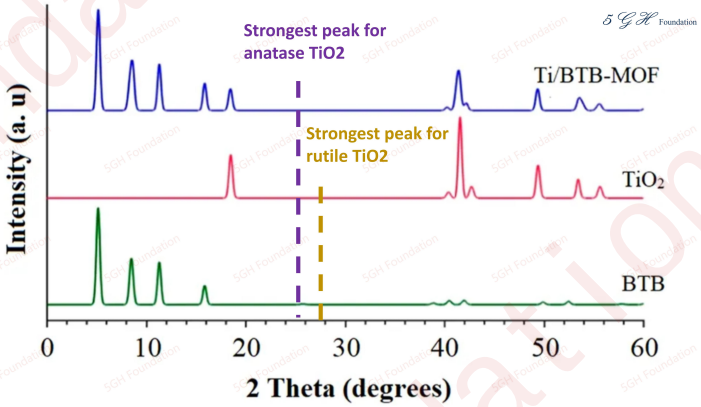

Figure 2: The trace labeled TiO_2 does not match standard TiO_2. The diagnostic anatase (101) peak at 25.3° and rutile (110) peak at 27.4° are missing. Instead, the strongest peak occurs at about 41.6°, and an extra peak near 18.5° cannot be assigned to anatase, rutile, or brookite. Standard values (JCPDS 21-1272 / 21-1276) place the main anatase peaks at 25.3°, 37.8°, 48.0°, 53.9°, 55.1° and the main rutile peaks at 27.4°, 36.1°, 39.2°, 41.2°, 54.3°, 56.6°. The observed pattern is inconsistent with the TiO_2 label and requires verification of the standard sample, phase assignment, or curve origin.

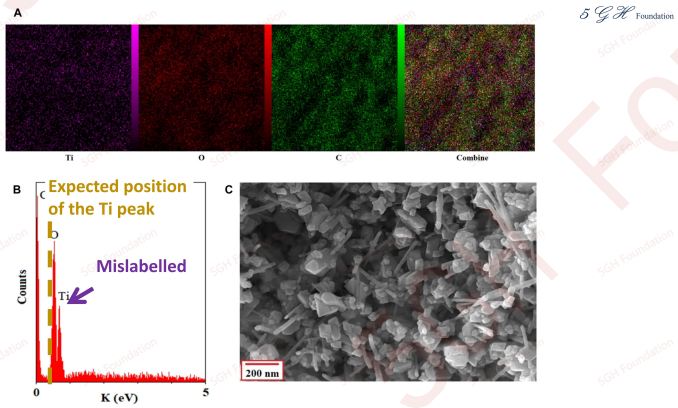

Figure 6: The peak labeled "Ti" appears at approximately 0.62 keV (position estimated from the plotted axis). Titanium has no characteristic X-ray line at this energy. Its Lα line is about 0.452 keV (close to O Kα at 0.525 keV), while the Kα and Kβ lines are at 4.51 keV and 4.93 keV, which are absent from the spectrum. The "Ti" label is therefore misplaced, and the plotted spectrum does not support the claimed Ti signal.

[1] 10.3389/fchem.2024.1386311

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