**Supplemental Digital Content**

**Table 1.** Demographics and Baseline Characteristics

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| **ITT Population** |  | **Arm T+PP**N=223 | **Arm PP**N=111 |
| **Median age, years (range)**  |  | 60 (27-75) | 61 (25-74) |
| **Age group, n (%)**  | <65 | 163 (73.1) | 74 (66.7) |
| ≥65 | 60 (26.9) | 37 (33.3) |
| **Sex, n (%)**  | Male | 168 (75.3) | 79 (71.2) |
| Female | 55 (24.7) | 32 (28.8) |
| **Smoking status, n (%)**   | Former | 115 (51.6) | 53 (47.7) |
| Current | 32 (14.3) | 13 (11.7) |
| Never | 76 (34.1) | 45 (40.5) |
| **ECOG performance status, n (%)**  | 0 | 54 (24.2) | 24 (21.6) |
| 1 | 169 (75.8) | 87 (78.4) |
| **Disease stage, n (%)** | Stage IIIB | 40 (17.9) | 21 (18.9) |
| Stage IV | 183 (82.1) | 90 (81.1) |
| **PD-L1 expression in tumor cells, n (%)**  | <1%a | 96 (43.0) | 48 (43.2) |
| 1-49% | 53 (23.8) | 27 (24.3) |
| ≥50% | 74 (33.2) | 36 (32.4) |
| ***EGFR*-sensitizing****mutation status, n (%)** | Negative | 218 (97.8) | 109 (98.2) |
| Positive or Unknownb | 5 (2.2) | 2 (1.8) |
| ***ALK* rearrangement****status, n (%)** | Negative | 166 (74.4) | 79 (71.2) |
| Unknown | 57 (25.6) | 32 (28.8) |
| **Location of distant metastasesc, n (%)** | Bone | 75 (33.6) | 41 (36.9) |
| Liver  | 20 (9.0) | 17 (15.3) |
| Brain | 11 (4.9) | 7 (6.3) |

**Abbreviations:** ALK, anaplastic lymphoma kinase, ECOG, Eastern Cooperative Oncology Group; EGFR, epidermal growth factor receptor; ITT, intent-to-treat; PD-L1, programmed death-ligand 1; PP, platinum-pemetrexed; T, tislelizumab.

a Five patients with unevaluable PD-L1 expression were included in PD-L1 <1% category.

b Included patients with EGFR sensitizing mutations or undeterminable status via tissue-based test, reported as major protocol deviations.

c Patients were counted once within each category but may have been counted in multiple categories.