Antipsychotic drugs have become the standard treatment for schizophrenia, however, the treatment outcomes vary. Some patients achieve symptomatic remission and others continue to experience some or most symptoms. A brain correlate characteristic of the treatment outcomes is desirable to ensure an adequate trial for patients who are likely to benefit from taking antipsychotics. We evaluated 91 patients with schizophrenia (remitted, 50; non-remitted, 41) and 50 healthy controls using diffusion spectrum imaging. White matter tract integrity was assessed by an automatic tract-specific analysis method to determine white matter integrity of the 76 white matter tract bundles in each participant. We found that 12 tracts were significantly different in tract integrity values among the 3 groups. Post-hoc analysis showed that compared with the healthy controls, the non-remission group had reduced integrity in all 12 tracts, whereas the remission group had reduced integrity in only 4 tracts. Comparison between the remission and non-remission groups revealed 4 tracts with significant difference (i.e. the right fornix, bilateral uncinate fasciculi and callosal fibers connecting the temporal poles) even after adjusting age, sex, education year, illness duration and medication dose. Furthermore, all of the 4 tracts were correlated with negative symptoms scores of the positive and negative syndrome scale. In conclusion, our study identified the tracts that were associated with remission state of schizophrenia. These tracts might be a potential prognostic marker for the symptomatic remission in patients with schizophrenia.