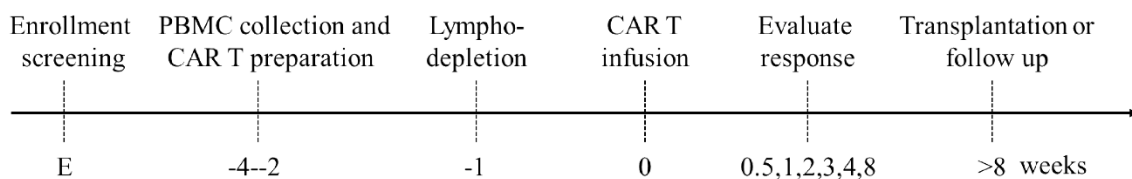
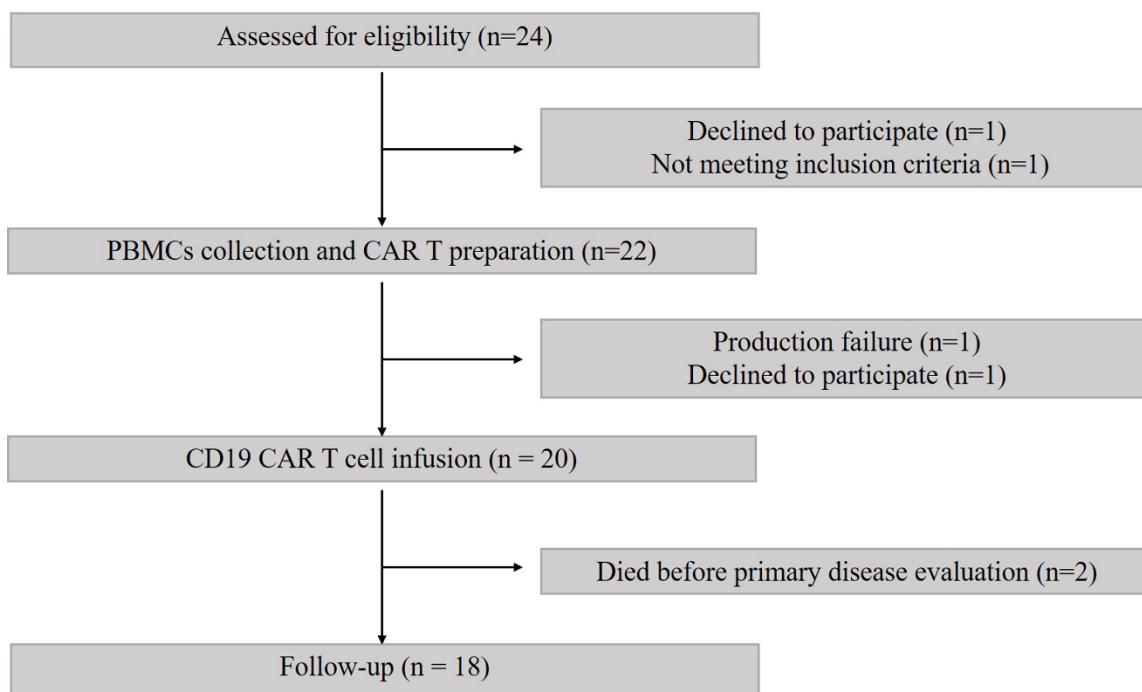


**Fig. S1**

**a**



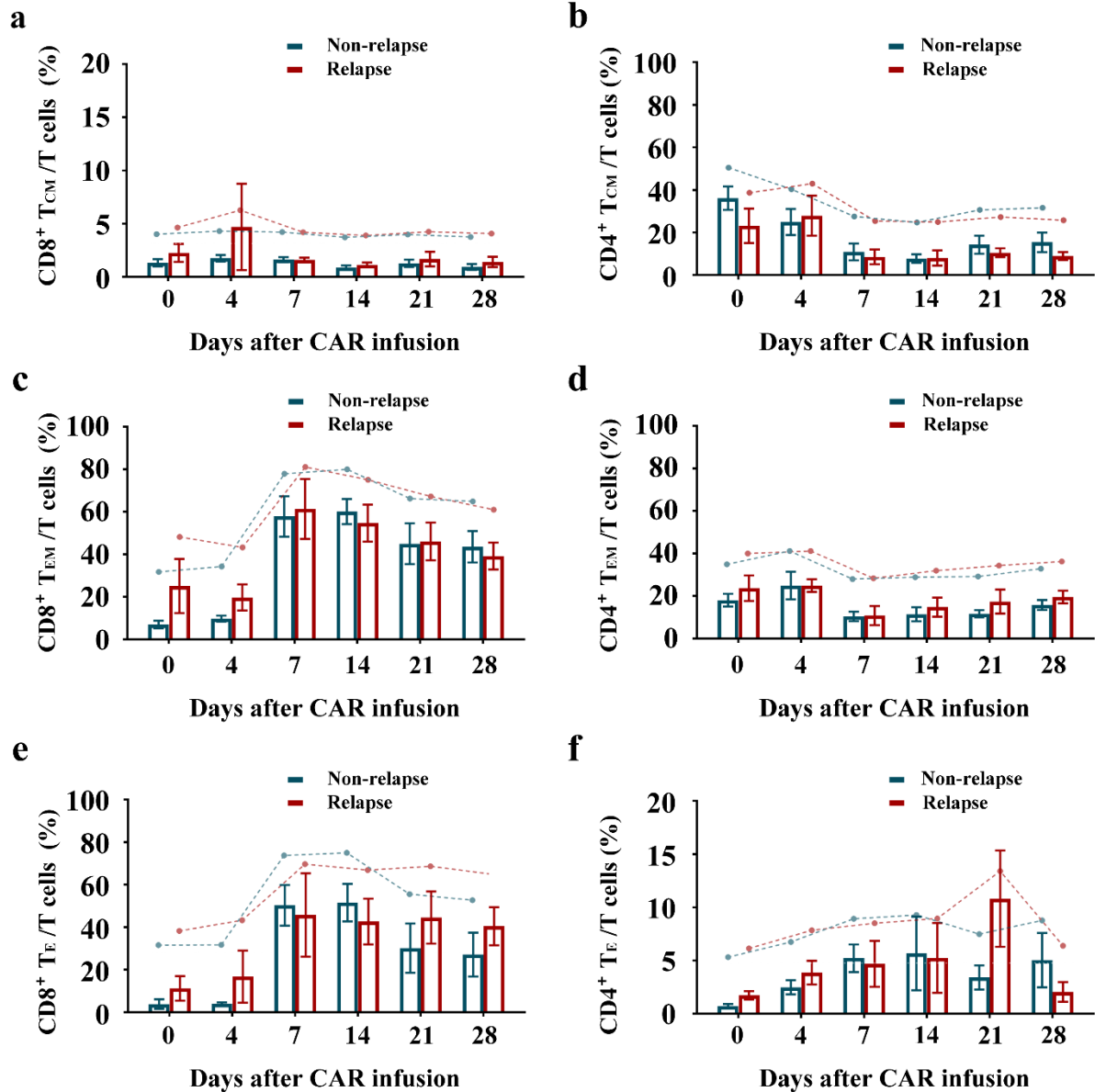
**b**



**Supplementary Fig. 1 Procedure of clinical trial and study flow of all participants**

Supplementary Fig. 1 legends a. Scheme for CAR T preparation and treatment. b. The diagram shows all study participant's course from the time of consent to treatment on study.

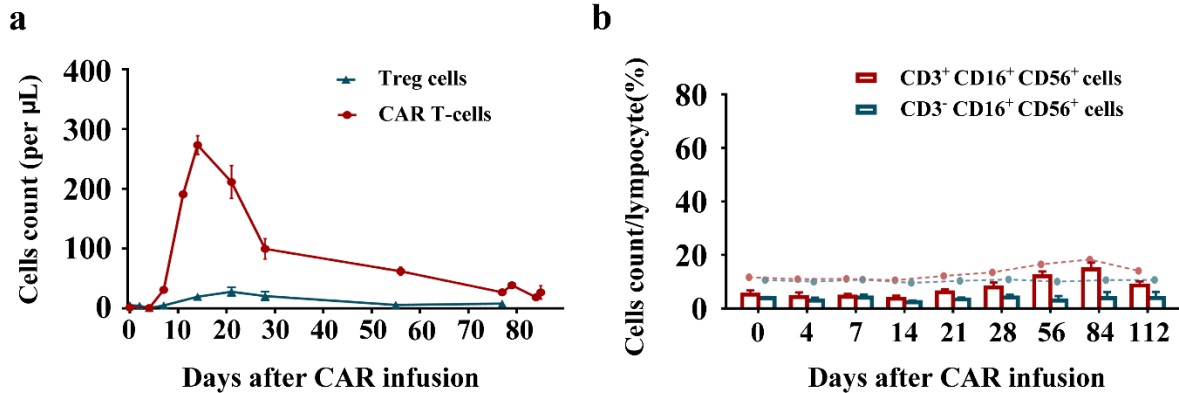
**Fig. S2**



**Supplementary Fig. 2 Analysis for amplification of different T cell subpopulations after CD19 CAR T cell infusion**

Supplementary Fig. 2 legends. a-f, CD8<sup>+</sup> T<sub>CM</sub> cells (a), CD4<sup>+</sup> T<sub>CM</sub> cells (b), CD8<sup>+</sup> T<sub>EM</sub> cells (c), CD4<sup>+</sup> T<sub>EM</sub> cells (d), CD8<sup>+</sup> T<sub>E</sub> cells (e), CD4<sup>+</sup> T<sub>E</sub> cells (f) percentage in peripheral blood after CAR T cell infusion in patients with continuous CR or relapse from B-ALL.

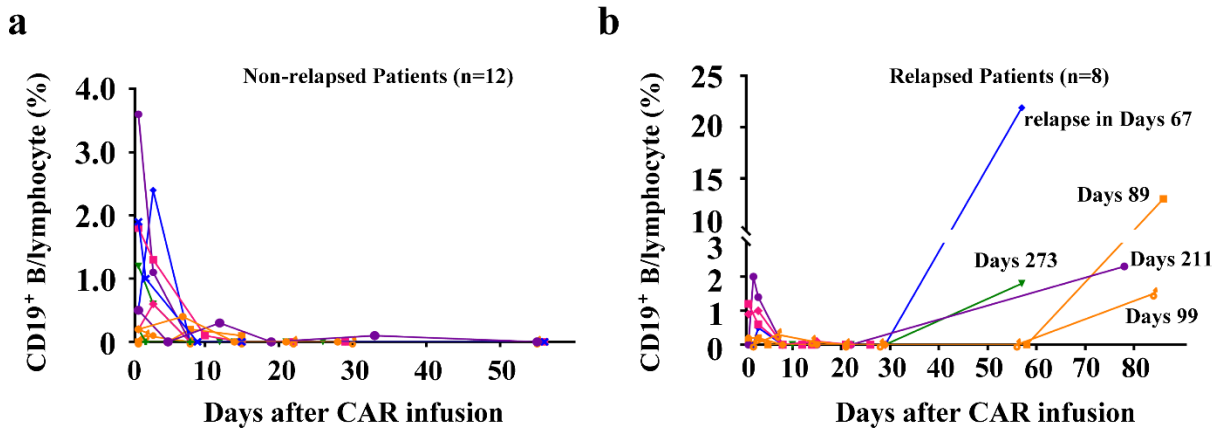
**Fig. S3**



**Supplementary Fig. 3 The expansion kinetics of Treg cells, NK-like T cells and NK cells after CD19 CAR T cell infusion**

Supplementary Fig. 3 legends. a. The correlation between CD19 CAR T cell expansion after infusion and the proliferation of Treg cells. b. CD3<sup>+</sup>CD16<sup>+</sup>CD56<sup>+</sup> NK-like T cells or CD3<sup>-</sup>CD16<sup>+</sup>CD56<sup>+</sup> NK cells expansion in peripheral blood expansion after CAR T cell infusion.

**Fig. S4**



**Supplementary Fig. 4 Analysis for amplification of CD19<sup>+</sup> B cells according to relapse**

Supplementary Fig. 4 legends. a. CD19<sup>+</sup> B cells percentage in peripheral blood after CD19 CAR T cell infusion in patients with continuous CR. b. CD19<sup>+</sup> B cells percentage in peripheral blood after CD19 CAR T cell infusion in patients who relapsed from B-ALL.