ABSTRACT. In this paper, we describe great details of the bubbling behavior for a sequence of solutions  $w_i$  of

$$Lw_i + R_i w_i^{\frac{n+2}{n-2}} = 0 \text{ on } S^n,$$

where L is the conformal Laplacian operator of  $(S^n, q_0)$  and  $R_i =$  $n(n-2) + t_i \hat{R}, \ \hat{R} \in C^1(S^n)$ . As  $t_i \downarrow 0$ , we prove among other things the location of blowup points, the spherical Harnack inequality near each blowup point and the asymptotic formulas for the interaction of different blowup points. This is the first step toward computing the topological degree for the nonlinear PDE.