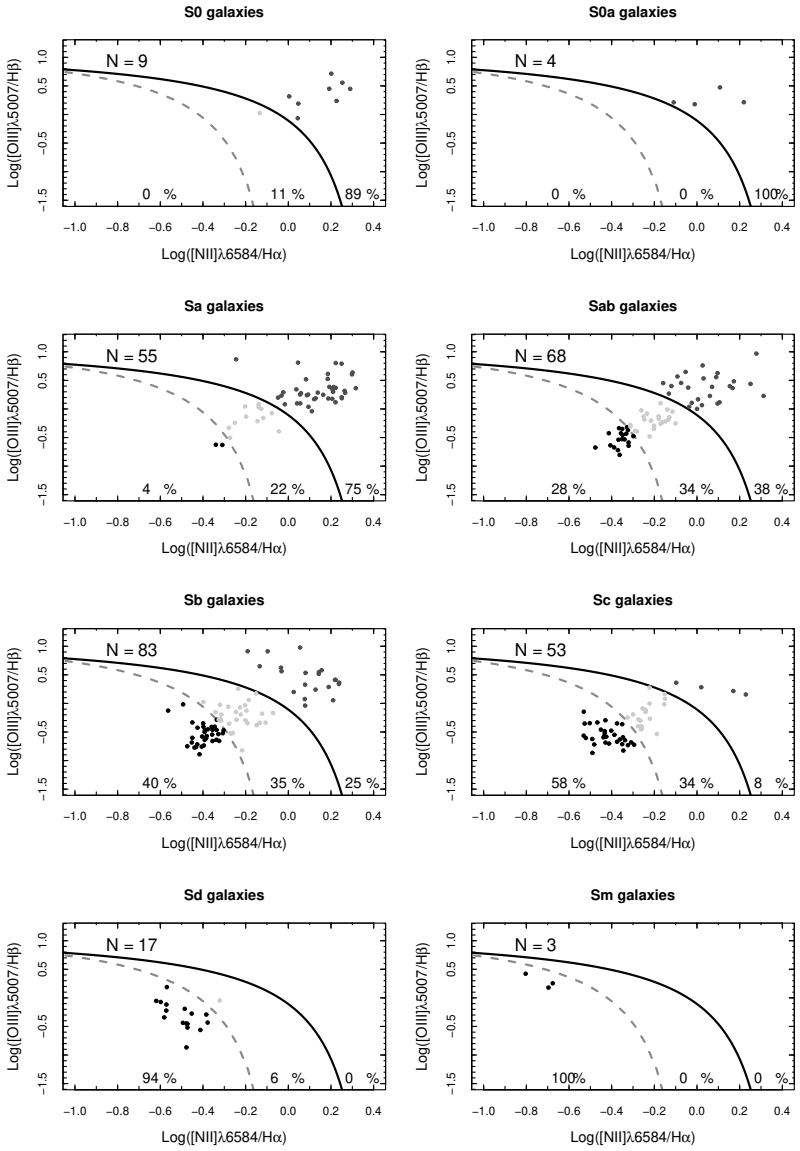

Fig. 5. Diagnostic diagrams for isolated NELGs with different morphologies. The separations and colors are as explained in Figure 3. The color figure can be viewed online.

earlier morphological types. This trend is also found to be statistically significant. The results for the tests, presented in Table A2 of the Appendix, show that the farther apart the morphological class, the more significant the difference in bulge mass. For example, the statistical tests reveal no difference between Sa and Sab, but a significant one between Sa and Sb. Similarly, no difference appears between Sab and Sb, but a significant one is found between Sab and Sc.

The above results lead to the question of whether the most important parameter is the mass of the bulge or the morphology of the galaxy. As a test, we compare the bulge masses in two statistical groups: Group 1 which is composed of Sa and Sab galaxies, and Group 2 which is composed of Sab and Sb. The box-whisker plots are drawn in Figure 7a for Group 1 and Figure 7b for Group 2. We find no significant difference in bulge mass between the different activity types in Group 1, while in Group 2 there is a significant difference only between the SFGs and AGNs. This is confirmed by the statistical tests in Table A1 of the Appendix. We conclude that the AGN activity is related to the bulge mass, but mostly because of the strong connection of this parameter with the morphology: the earlier the morphology, the larger