

## **Supplemental Material**

Table 1. Comparison with existing methods on **CIFAR100-5-shot** benchmark (Accuracy %). **Bold** indicates best performance.  $\Delta$  shows improvement of our method over the previous best.

| Method    | Backbone | 0            | 1            |              | 2            |              | 3            |              | 4            |              | 5            |              | 6            |              | 7            |              | 8            |              |
|-----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|           |          | AvgAcc       | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         |
| Baseline  | CLIP     | 75.70        | 72.75        | 42.20        | 70.77        | 45.40        | 68.20        | 43.40        | 66.75        | 44.35        | 65.54        | 45.56        | 65.04        | 48.17        | 63.91        | 47.71        | 62.38        | 46.58        |
| TEEN      | CLIP     | 75.70        | 73.06        | 49.40        | 71.14        | 50.60        | 68.68        | 48.20        | 67.28        | 49.05        | 66.13        | 50.32        | 65.73        | 52.93        | 64.63        | 52.06        | 63.10        | 50.83        |
| FDR(Ours) | CLIP     | <b>75.70</b> | <b>73.14</b> | <b>50.40</b> | <b>71.16</b> | <b>51.00</b> | <b>68.71</b> | <b>48.40</b> | <b>67.38</b> | <b>49.55</b> | <b>66.21</b> | <b>50.68</b> | <b>65.79</b> | <b>53.37</b> | <b>64.73</b> | <b>52.57</b> | <b>63.26</b> | <b>51.43</b> |
| $\Delta$  |          | -            | +0.08        | +1.00        | +0.02        | +0.40        | +0.03        | +0.20        | +0.10        | +0.50        | +0.08        | +0.36        | +0.06        | +0.44        | +0.10        | +0.51        | +0.16        | +0.60        |

Table 2. Comparison with existing methods on **miniImageNet-5-shot** benchmark (Accuracy %). **Bold** indicates best performance.  $\Delta$  shows improvement of our method over the previous best.

| Method    | Backbone | 0            | 1            |              | 2            |              | 3            |              | 4            |              | 5            |              | 6            |              | 7            |              | 8            |              |
|-----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|           |          | AvgAcc       | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         |
| Baseline  | CLIP     | 92.02        | 91.26        | 83.80        | 89.06        | 72.80        | 88.49        | 75.60        | 88.39        | 78.55        | 87.80        | 79.20        | 86.80        | 78.13        | 86.67        | 79.14        | 86.59        | 80.23        |
| TEEN      | CLIP     | 92.02        | 91.06        | 86.03        | 88.99        | 75.50        | 88.45        | 77.73        | 88.58        | 81.40        | 88.12        | 82.36        | 87.18        | 81.23        | 87.21        | 82.40        | 87.10        | 83.10        |
| FDR(Ours) | CLIP     | <b>92.02</b> | <b>91.45</b> | <b>88.06</b> | <b>89.44</b> | <b>76.80</b> | <b>89.05</b> | <b>79.53</b> | <b>89.10</b> | <b>82.55</b> | <b>88.52</b> | <b>83.05</b> | <b>87.61</b> | <b>81.97</b> | <b>87.50</b> | <b>82.77</b> | <b>87.41</b> | <b>83.45</b> |
| $\Delta$  |          | -            | +0.39        | +2.03        | +0.45        | +1.30        | +0.60        | +1.80        | +0.52        | +1.15        | +0.40        | +0.69        | +0.43        | +0.74        | +0.29        | +0.37        | +0.31        | +0.35        |



Table 5. Comparison with existing methods on **CUB200-1-shot** benchmark (Accuracy %). **Bold** indicates best performance.  $\Delta$  shows improvement of our method over the previous best.

| Method    | Backbone | 0            | 1            |              | 2            |              | 3            |              | 4            |              | 5            |              | 6            |              | 7            |              | 8            |              | 9            |              | 10           |              |
|-----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|           |          | AvgAcc       | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         |
| Baseline  | CLIP     | 80.85        | 74.18        | 14.25        | 68.86        | 18.66        | 65.00        | 18.39        | 62.59        | 19.29        | 59.41        | 20.11        | 56.37        | 18.51        | 54.57        | 19.05        | 52.12        | 18.22        | 51.64        | 20.30        | 49.75        | 19.86        |
| TEEN      | CLIP     | 80.85        | 76.40        | 35.16        | 71.89        | 38.26        | 66.70        | 30.00        | 65.73        | 31.49        | 62.94        | 32.71        | 60.90        | 30.95        | 59.38        | 32.11        | 56.60        | 29.75        | 56.14        | 32.19        | 54.48        | 31.56        |
| FDR(Ours) | CLIP     | <b>80.85</b> | <b>77.26</b> | <b>54.82</b> | <b>72.93</b> | <b>50.09</b> | <b>68.38</b> | <b>39.74</b> | <b>67.35</b> | <b>40.05</b> | <b>65.02</b> | <b>40.24</b> | <b>63.07</b> | <b>38.68</b> | <b>62.12</b> | <b>39.36</b> | <b>58.33</b> | <b>36.45</b> | <b>58.76</b> | <b>38.91</b> | <b>57.37</b> | <b>38.40</b> |
| $\Delta$  |          | -            | +0.86        | +19.66       | +1.04        | +11.83       | +1.68        | +9.74        | +1.62        | +8.56        | +2.08        | +7.53        | +2.17        | +7.73        | +2.74        | +7.25        | +1.73        | +6.70        | +2.62        | +6.72        | +2.89        | +6.84        |

Table 6. Comparison with existing methods on **CUB200-5-shot** benchmark (Accuracy %). **Bold** indicates best performance.  $\Delta$  shows improvement of our method over the previous best.

| Method    | Backbone | 0            | 1            |              | 2            |              | 3            |              | 4            |              | 5            |              | 6            |              | 7            |              | 8            |              | 9            |              | 10           |              |
|-----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|           |          | AvgAcc       | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         | AvgAcc       | NAcc         |
| Baseline  | CLIP     | 80.85        | 79.11        | 65.02        | 77.49        | 65.02        | 73.98        | 57.20        | 74.66        | 60.61        | 73.04        | 59.36        | 71.82        | 58.66        | 70.09        | 57.88        | 69.53        | 56.11        | 69.35        | 58.31        | 69.20        | 59.13        |
| TEEN      | CLIP     | 80.85        | 79.21        | 67.23        | 77.54        | 66.18        | 73.87        | 58.21        | 74.76        | 62.16        | 73.05        | 60.55        | 72.04        | 59.25        | 70.10        | 58.51        | 69.56        | 56.86        | 69.45        | 58.01        | 69.37        | 58.83        |
| FDR(Ours) | CLIP     | <b>80.85</b> | <b>79.38</b> | <b>73.76</b> | <b>77.70</b> | <b>70.73</b> | <b>74.28</b> | <b>62.51</b> | <b>74.92</b> | <b>64.97</b> | <b>73.47</b> | <b>63.53</b> | <b>72.59</b> | <b>63.21</b> | <b>70.13</b> | <b>62.12</b> | <b>70.13</b> | <b>59.68</b> | <b>70.08</b> | <b>61.81</b> | <b>70.15</b> | <b>62.79</b> |
| $\Delta$  |          | -            | +0.17        | +6.53        | +0.16        | +4.55        | +0.41        | +4.30        | +0.16        | +2.81        | +0.42        | +2.98        | +0.55        | +3.96        | +0.03        | +3.61        | +0.57        | +2.82        | +0.63        | +3.80        | +0.78        | +3.96        |