$$\mathbb{E}_{\mathbf{v}}[-\log D_1(S_1(\mathbf{v}))] + \mathbb{E}_{\tilde{\mathbf{v}}}[-\log(1 - D_1(S_1(\tilde{\mathbf{v}})))] +$$
$$\mathbb{E}_{\mathbf{v}}[-\log D_V(S_V(\mathbf{v}))] + \mathbb{E}_{\tilde{\mathbf{v}}}[-\log(1 - D_V(S_V(\tilde{\mathbf{v}})))],$$