Integrals Containing Tan& Cot Function

$\int \tan ax\, dx = \frac{-1}{a} \ln \cos ax + c$
$\int \tan^3 ax\, dx = \frac{1}{2a} \tan^3 ax + \frac{1}{a} \ln \cos ax + c$
$\int \tan^3 ax\, dx = \frac{1}{2a} \tan^3 ax + \frac{1}{a} \ln \cos ax + c$
$\int \tan^n ax\, dx = \frac{1}{(a(n-1))} \tan^{(n-1)} ax - \int \tan^{(n-2)} ax\, dx$
$\int x \tan ax\, dx = \frac{(a\, x^3)}{3} + \frac{(a^3 x^5)}{15} + \frac{(2\, a^2 x^7)}{105} + \frac{(17 a^7 x^9)}{2835} + \ldots + c$
$\int \frac{(\tan ax)}{x} dx = ax + \frac{(ax)^3}{9} + 2\frac{(ax)^5}{75} + 17\frac{(ax)^7}{2205} + \ldots + c$
$\int \frac{(\tan^n ax)}{(\cos^2 ax)} dx = \frac{1}{(a(n+1))} \tan^{(n+1)} ax + c$
$\int \frac{dx}{(\tan ax \pm 1)} = \pm(\frac{x}{2}) + \frac{1}{2a} \ln(\sin ax \pm \cos ax) + c$
$\int \frac{(\tan ax)}{(\tan ax \pm 1)} dx = (\frac{x}{2}) \mp (\frac{1}{2a}) \ln(\sin ax \pm \cos ax) + c$
$\int \frac{(\tan ax)}{(a + B \tan x)} = \frac{1}{(a^2 + B^2)} (Bx - aln\lvert(acosx + Bsinx)\rvert) + c$
$\int \frac{dx}{(1 + \tan^2 x)} = \frac{x}{2} + \frac{1}{4} \sin 2x + c$
$\int \frac{dx}{(a^2 + B^2 \tan^2 x)} = \frac{1}{(a^2 - B^2)} \{(x - \lvert(\frac{B}{a})\rvert \tan^{-1}[\lvert(\frac{B}{a})\rvert \tan x])\}$
$\int \frac{dx}{(a^2 - B^2 \tan^2 x)} = \frac{1}{(a^2 + B^2)} [x + \frac{B}{2a} \ln\lvert(\frac{(a + B \tan x)}{(a - B \tan x)})\rvert] + k$
$\int \frac{(\tan x)}{(1 + \tan^2 x)} dx = \frac{-(\cos^2 x)}{2} + c$
$\int \frac{(\tan x)}{(1 + a^2 \tan^2 x)} = \ln \frac{(\cos^2 x + a^2 \sin^2 x)}{(2(a^2 - 1))} + k$
$\int \cot ax\, dx = \frac{1}{a} \ln \sin ax + c$